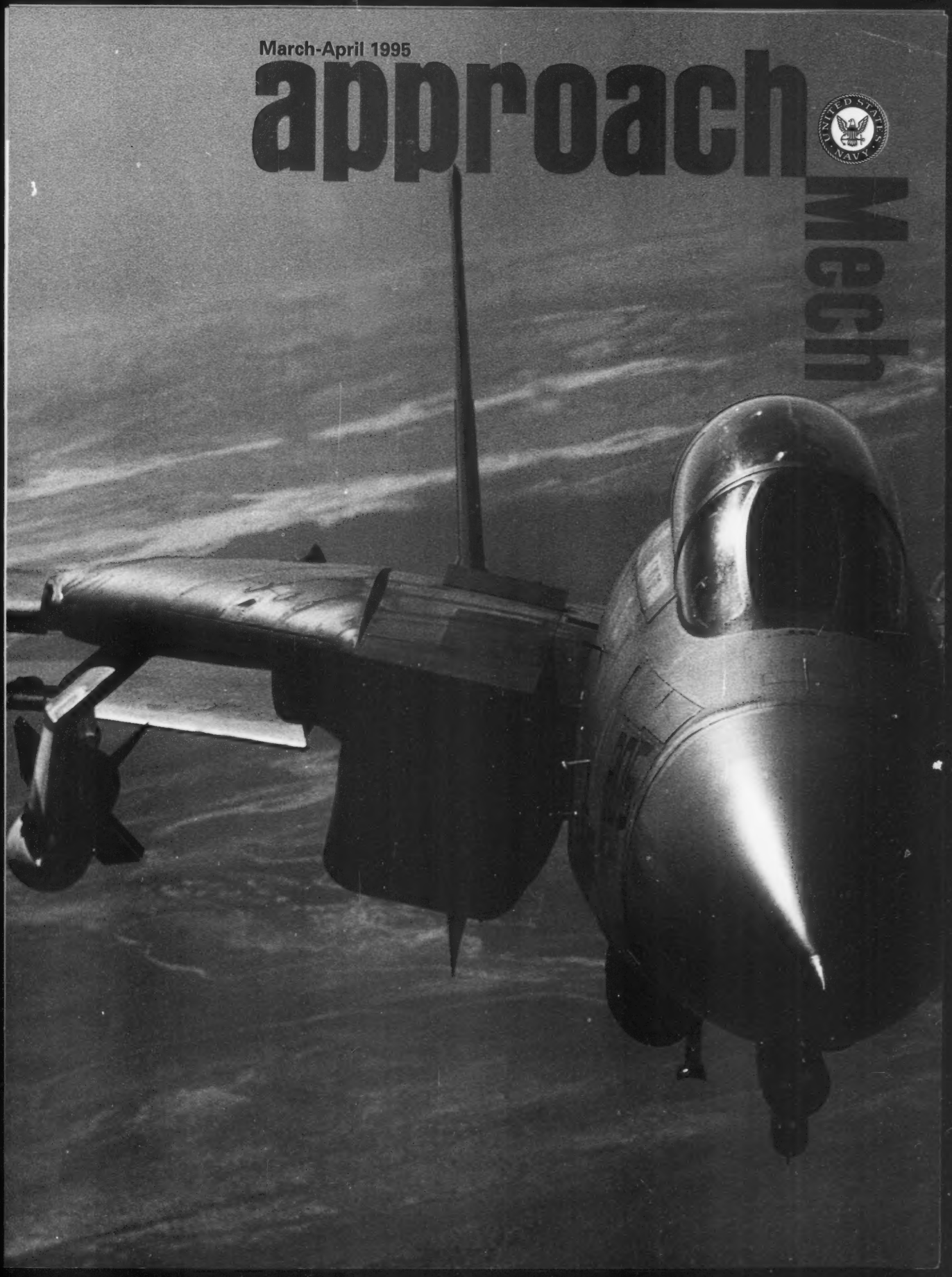
March-April 1995

approach

Mech



Sex

Specifically, how important is it after a six-month cruise? Phrases like "a lot," "extremely," or "I can't begin to tell you" come to mind. But do you want to get home as much as one H-46 crew a senior officer told me about? They left the ship in a helicopter that had an engine problem: one of its two engines wasn't installed. Seems the helo's engine had broken during deployment, so maintenance removed it while waiting for a replacement. The day before the ship pulled into port, the replacement engine hadn't arrived, and the helicopter flew off without it.

Then there was the H-2 whose rotor blade began to delaminate in flight. It got the crew's attention as it deteriorated, so they declared an emergency and landed. The flyoff was the next day, and there was no replacement blade on the ship. If the plane didn't fly off, the aircrew would spend another night on the boat. Not only that, the bird would have to be worked on pierside, then craned off after it was repaired. Our ingenious aviators traipsed down to admin, borrowed some Superglue, and glued the torn blade together. The H-2 flew off, and everyone was happy.

During one of my flyoffs, the master chief in maintenance control briefed me on a brake problem. He thought the mechs had fixed my F-14's brakes, but if the brakes weren't fixed to let them know and they would try again. I remember thinking, "They've already replaced everything. What else can they do?" My answer: "Not much, and it wouldn't be anything they could fix in time for me to make the launch."

Of course, the brakes weren't fixed. One side locked up every time I touched them. No problem, I taxied to the cat using one brake. When I forgot and used both brakes, no one noticed the brake locking up because the deck was wet and everyone was sliding anyway. My plan was to take a trap back at the beach, with no one the wiser. Luckily, the runways were wet (this was luck?), and my entire squadron took traps. I didn't even have to explain why I trapped at the field. I walked inside to maintenance control and downed the airplane for brakes. Just wasn't safe to fly, you know.

Then there's the bubblegum-and-bailing-wire fix. At least one maintenance department was brighter than that. They didn't need the bailing wire. When they found a fuel leak just before the flyoff, they stopped the leak with bubblegum. Whatever works, right? The aircrew was ashore, and the squadron didn't have to crane an airplane onto the pier.

Let's not forget looking good on the fly-off. A friend of mine described launching with no fuel in his drop tanks. When I shrugged, and said "So what," he then said they stayed in the big "V" formation too long trying to make the squadron look good. They landed with 600 pounds of fuel, shut off the right engine on touchdown, and taxied in on one engine. If you're not familiar with the Tomcat, the low-fuel lights come on at 2,000 pounds, and most SOPs require getting the airplane on deck by 2,000 pounds during the day, 2,500 pounds at night or IFR.

Flyoffs have to be the ultimate breeding ground for "get-home-itis." Nothing anyone says or does will remove the desire to get home. We know that these emotions exist, and when we feel like pressing, we have to remind ourselves that there's an alternative much worse than being a day late.

Lt. Ken Skaggs, Editor

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F-14A Tomcat (*Photo by Rick Llinares*)

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We'll Have the Chicken-and-Fish Combo to Go!

By Lt. Gary Williams and Lt. Paul McSweeney

Our squadron was preparing for a two-week air-to-ground det to El Centro, and all aircrew would get a refresher brief on LAT. This flight was a LAT instructor check flight for my pilot and for the RIO in the lead aircraft. The flight leader gave the brief. He was a LAT instructor pilot, and he covered the specifics of the flight in detail, as well as emergency procedures, including bird strikes. Minimum altitude for the hop was 200 feet AGL.

We flew the LAT portion of the flight at Navy Dare target range. Everything went as briefed until approximately 40 minutes into the hop. While completing a TAC turn, my pilot was looking out the left side for our lead while I was looking out the same side to check lead's six o'clock.

While in a 20-degree left-wing-down attitude at about 200 feet and 500 knots, we heard an extremely loud pop as something struck the pilot's right shoulder and helmet, and the right side of my helmet. My first thought was a catastrophic engine failure, but it only took about another second to figure out that we had hit a bird.

The inside of the cockpit—including us!—was covered with feathers and bird entrails. As I looked up toward the pilot, I saw that there was a 12-inch hole in the right quarter windscreen panel. The center bullet-proof windscreen, while still intact, had completely shattered.

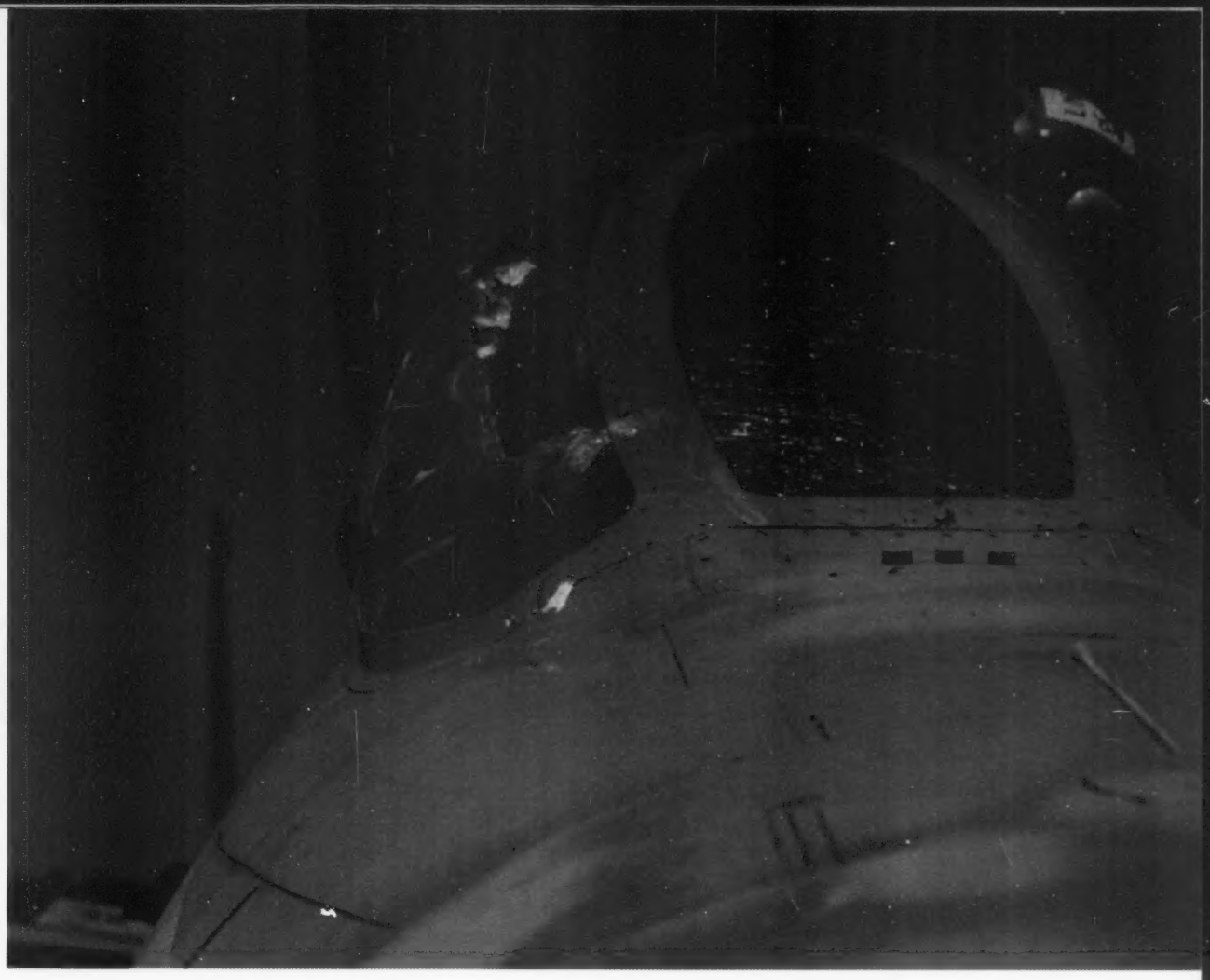
I immediately tried to talk to the pilot to determine whether he could maintain control of the aircraft. I hoped that I would not have to choose my other option. At 200 feet and 500 knots, I did not expect to survive an ejection.

My first attempt to call the pilot was unsuccessful because of the deafening noise in the cockpit. I screamed to him over the ICS to pull up while looking for any kind of response. My pilot later said that at first, he could not hear any calls over the ICS or radio because of the wind noise.

My scan immediately became altitude, attitude, and airspeed. Fortunately, the pilot had come to the same conclusion and started climbing and decelerating. I told lead about our problem, and we immediately turned for home base.

As we decelerated to 200 knots, we were able to communicate with each other again. We climbed to approximately 8,500 feet, and our lead joined on us and checked our F-14 for damage. There didn't seem to be anything more.

The pilot couldn't see out the front or right side of the aircraft, so we decided that our lead would take us back for a section PAR and drop us off on the ball of the long runway. On the way back, we checked controllability in the landing configuration,



and the pilot reported no problems. The aircraft and both engines were operating normally.

We called base, and they told us to make sure we had safed our upper ejection handles, something we had not thought of. Although the right quarter-panel had a large hole in it and the wind noise was tremendous at high speed, there was little wind blast coming in the cockpit.

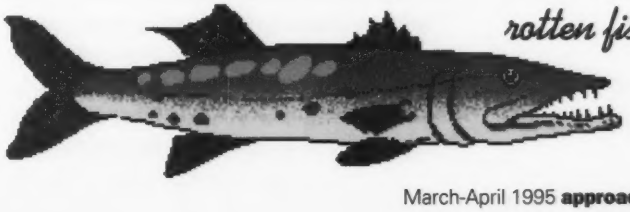
Our approach and landing at NAS Oceana were uneventful, and we decided to shut down in the throat after turning off the runway so we would not FOD an engine with the loose plexiglass, which was hanging from the right quarter-windscreen panel.

As we took off our masks to exit the aircraft, we were hit with the smell of rotten fish. It wasn't until I looked into the canopy turtleback that I realized we had a third passenger—or at least part of one. Its white feathers combined with the smell of fish led us to believe we had hit a seagull on his way home from lunch.

As we checked each other over, I saw that the pilot's helmet and visor were covered with bird guts and feathers. Our squadron SOP and briefing guide both contain a LAT checklist. The first two items on this checklist are visor down and mask on. If the pilot had not had his visor down, I am convinced the outcome would have been different. ◀

Lt. Williams (pilot) and Lt. McSweeney (RIO) fly with VF-14.

As we took off our masks to exit the aircraft, we were hit with the smell of rotten fish.



NUGGET INBOUND

By LCdr. Scott A. White

I arrived in the Philippines for my H2P deployment, wearing my service dress blues and full of anticipation, apprehension, and perspiration. The ship had a permanently assigned det at Cubi, and our people rotated every six months. The detachment welcomed me, promptly took me on an Olongapo fam, and had me flying the following day. My first flight was a day familiarization flight around Cubi Point, at that time a license to steal. We started with some touch-and-goes, quickly became bored, and decided to go for a sightseeing tour around Luzon.

Some of you old salts may remember "prehistoric valley." We flew up the valley at about five feet. I voiced my concern to the HAC about our flathatting, and he responded, "You're on det now, son. Just relax and enjoy the ride." I looked back at the crew and they were laughing at me. Being a naive nugget, I assumed these guys knew what they were doing and that this type of flying was normal on detachment. Besides, the flight was thrilling, and I certainly didn't want to make waves my second day of deployment.

My second flight was the det fly-on to the AFS as the ship pulled out of Subic Bay. We launched with a full bag of fuel, a ton of IMRL-gear, and several bags of golf clubs. We were hot and heavy, but we still had single-engine capability at 70 KIAS. The OINC gave me several simulated emergencies as we flew up and down the coast waiting for a green deck.

During a single-engine procedure, he told me he wanted to show me how to "milk" single engine in ground effect.

"Ground effect! That's less than 50 feet!" I said.

Apparently, he had learned this technique in the past, and he was determined to show it to me. I objected as much as any nugget can object to his lieutenant-commander OINC.

I said something like, "Sir, are you sure you know what you're doing? I don't think we're supposed to do single-engine work below 200 feet over water."

Of course, he responded, "No sweat, I've done this a million times." Again, the crew smiled cynically at the nugget. As we descended through 50 feet, the OINC pulled aft stick and reduced collective, followed by forward stick and up collective. The next thing I knew, rotor rpm was about 80 percent, and we were falling like a piano.

The OINC yelled, "We're going in!"

As we splashed, we grabbed the engine-condition lever, threw it back into "fly," and rocketed out of the water up to 1,000 feet. Fortunately, no harm was done to the aircraft, although our maintenance officer was furious because of the man-hours needed to de-salt the aircraft.

My third flight was a shipboard night-training flight. The OINC had been reprimanded in a P-4 from the squadron CO because the det had not been logging enough nighttime. We were going to log some nighttime, come hell or high water. Well, the high water came. In fact, we were sailing right into the middle of a typhoon. Losing sight of the ship in the landing pattern was routine, the winds were atrocious, the deck was pitching and rolling more than I have ever seen since, and the rain was coming down in sheets. Being an ignorant nugget, I did not even know enough to be scared.

I just kept asking, "Is it this bad out here often? Doesn't our SOP require us to have a visible horizon for single-ship ops?"

The HAC handed me a grease pencil and said, "Here, just draw a horizon on the windscreen and you'll be fine."

"Ha, ha. That's a good one," I said.

It did not take long for the HAC to decide it was time to end this folly, since I was all over the sky trying to control the aircraft. How many of us still train in unsuitable conditions because we don't want to be a "wimp"? The prevailing wisdom is we "train like we fight," but certainly there are times when the risks of training in uncooperative conditions are not worth the increased likelihood of a mishap.

The Naval Aviation Safety School in Monterey uses a film called "The Road to Abilene" to illustrate how a group may do something that no one actually wants to simply because no one questions the original idea. The lesson is that if an idea is not in the group's best interest, individuals must have the courage to speak up. Otherwise, the idea gathers momentum, and the flawed plan goes ahead.

I am often amazed that entire crews will go along with me simply because of my authority as the HAC. Moreover, it is appalling when a mishap board discovers a trend of "cowboy" antics by a pilot involved in a "human factors" mishap.

The collective reaction is, "Oh yeah, that guy flew like a wild man! Everyone knew that." Questioning a misguided scheme may often be difficult for a military member trained not to question authority, but we are certainly not talking about questioning orders in the heat of battle. As vigilant crew members, we must not let anyone in the aircraft pursue a course that will place anyone in unnecessary jeopardy, intentional or not. ◀

LCdr. White is the OINC for HC-11's Det 11.

This article represents the "way things were." Today's way of doing business does not tolerate rogue-warrior behavior by a naval aviator. Human Factors Boards and Aircrew Coordination Training were developed to detect this behavior and eliminate their types of mishaps. However, these programs are only as good as the attention that commands and aircrews give them. — Cdr. Charlie Hilton, Head, Rotary Wing Branch, Naval Safety Center.

Disappearing

The complexities and quirks of the F-14's fuel system mystify most of us. On a night cross-country 380 miles from NAF Atsugi, my pilot noticed a left fuel-pressure light. We immediately started the PCL procedures. Step No. 4 said to monitor the fuel distribution. The final step indicated that this was a land-as-soon-as-practical emergency.

We decided to press to Atsugi where the weather was excellent and we knew the field. Knowing MCAS Iwakuni was about 160 miles to the southwest was a comforting thought, except the weather there was just above mins and showing no sign of improvement. The other options were JSDF (Japanese Self Defense Force) fields that were just as close as Iwakuni, but were also under the same blanket of rain and fog that frequently covers Japan.

After we had completed the initial PCL drill, I worked on bingo profiles for Atsugi and Iwakuni. I also familiarized myself with approach and field diagrams for Iwakuni. Then the pilot noticed we had a growing fuel imbalance, which was not unusual for this type of emergency.

Following normal procedures, we selected the high side. The PCL says to monitor fuel distribution. If there was migration from the right side (which was working) to the left side (which wasn't) we were to return the switch to norm. The migration of fuel from the good to bad side indicated a sump-tank interconnect failure.

Soon fuel began migrating to the inoperative side, and we turned toward Iwakuni, as we would be unable to bingo to Atsugi on 5,500 pounds of unusable fuel. The 9,000 pounds of fuel on the left side was trapped and inaccessible. The bingo to Iwakuni required 3,750 pounds of fuel. No problem, we thought.

The situation started compounding. We began the usual comm battle with the Japanese controllers who wanted to vector us 100 miles out of our way. Once they realized we were going to fly a bingo profile regardless of what was said, they cooperated.

Next, our transponder failed. I couldn't fix the problem. Because we were out of radar contact, a position report was required every two minutes. To divide the workload between us, and to circumvent the communication barrier that arises when talking to the Japanese controllers, I gave my pilot the frequencies to Iwakuni's tower and ground for the front radio. On the other end of these frequencies were American controllers. Eighty miles out, we got the gear rigged at Iwakuni and had ground crews waiting for us. Most importantly, we received current weather updates. The field was approaching mins, and it was raining hard with fog. Looking at our charts, Iwakuni was the only suitable place for us to land. We were committed.

Since our course to Iwakuni had to be the most expeditious, and we were unable to get a TACAN lock, we used our hand-held GPS and INS to navigate and update our position.

As we started our idle descent, it occurred to us that something was amiss with our fuel. We had burned more than expected, and our fuel was down to 3,300 pounds on the operative side. About 10 minutes later and 20 miles from Iwakuni, we had only 2,000 pounds of usable fuel, about 1,800 pounds less than expected.

We knew we were in trouble and reevaluated our options. It was nighttime, rapidly

Fuel

By Lt. E. Schmitt

becoming IMC, and the field was at mins. If we missed the approach, we might have to eject. If the approach was successful, we were going to do everything possible to keep the plane on deck. It helped to know the field had three sets of arresting gear.

It was becoming apparent that we had not just a sump-tank interconnect failure, but possibly a fuel leak. We followed the PCL procedures for a fuel leak, except for shutting down the affected engine. We didn't secure the engine because we felt it would have been impossible to control the plane with a dead engine on the side with 9,000 pounds of fuel. At the present rate of fuel consumption, we were barely going to make the field.

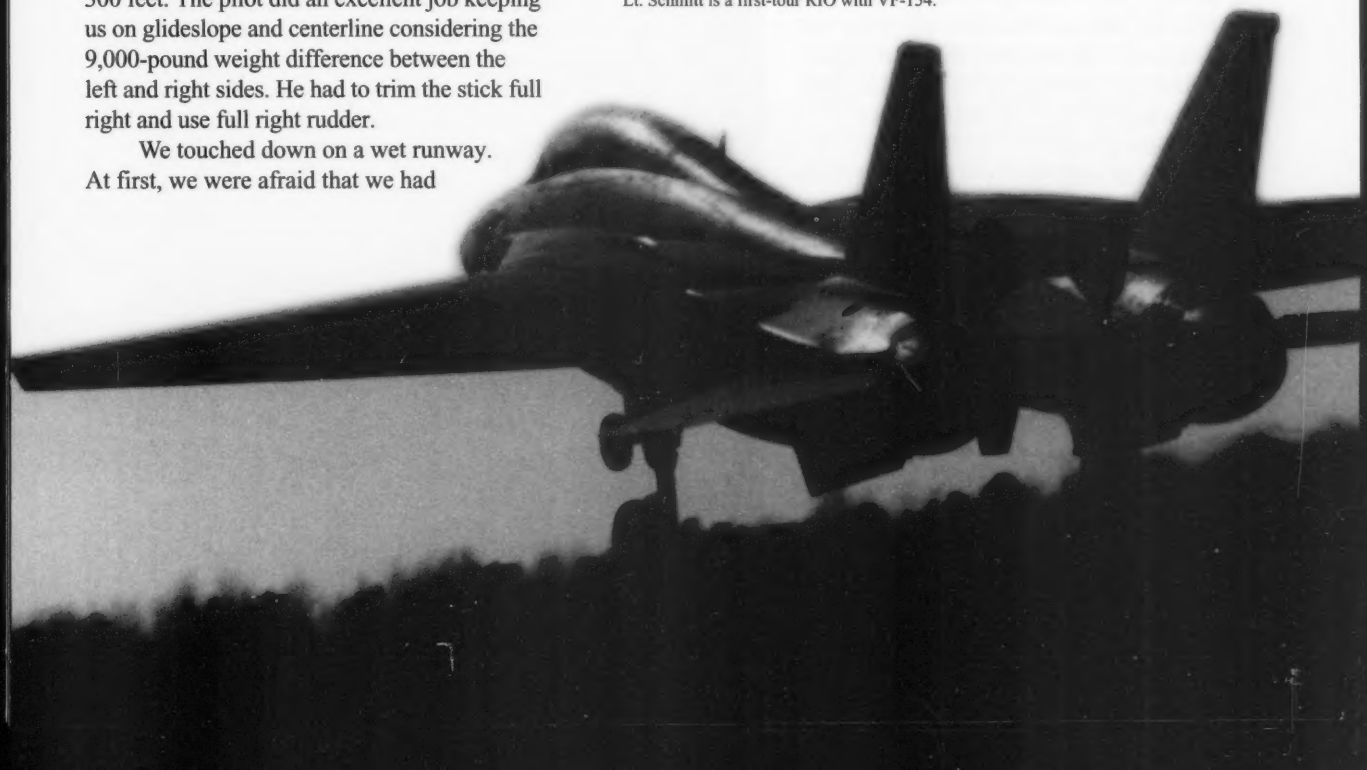
At 10 miles, in the goo, my pilot lost his primary attitude reference. We had 1,200 pounds of usable fuel as we continued the approach. Finally, we broke out at 1/2 mile and 300 feet. The pilot did an excellent job keeping us on glideslope and centerline considering the 9,000-pound weight difference between the left and right sides. He had to trim the stick full right and use full right rudder.

We touched down on a wet runway. At first, we were afraid that we had missed the gear. When we finally grabbed a wire, the crash crew gave us the signal for emergency shutdown. Fuel was streaming out of our vent mast like a fire hose. We had only 600 pounds of usable fuel left.

Always know your diverts and fuel needed to get to them. If we had delayed our decision to go to Iwakuni, we would have probably flamed out. Secondly, divide up the work. By having my pilot talk to Iwakuni while I continued to speak to the Japanese controller, we avoided delays in the last phase of the flight.

Thirdly, consider the emergency before securing a good engine. The PCL said to secure the engine. However, compounded with the other problems in our situation, it would have been a wrong thing to do, which reinforces the point that NATOPS does not have all the answers.➤

Lt. Schmitt is a first-tour RIO with VF-154.



Windmill

By LCdr. John Woods

You do some things in life that come back to haunt you. This one always seems to come back to me during my morning shower. All I can do is grimace, shake my head, and try to forget it.

I was an "experienced" P-3 pilot, a newly frocked lieutenant commander. Since I was flying every day in an exciting operational environment, my confidence was growing. In fact, I was so confident that when offered an opportunity to fly one of our flag officers from Hawaii to NAF Washington at Andrews AFB, I took it. This was one opportunity to screw up badly that I couldn't refuse.

I did what I thought was a complete job of preflight planning. Weather was forecast to be CAVU throughout the trip, and the only disappointing aspect was a forecast headwind. Sure enough, when I ran an OPARS fuel plan, it indicated that I would be about 2,000 pounds short of required reserves if I departed at my maximum weight and tried to stretch it in one leg. I threw caution to the wind (pardon the pun) and took off with all the fuel I could load. I figured there were lots of gas stops between the West and East Coasts, and the odds were in my favor that the wind would come around.

We made landfall over NAS Moffett Field at about 0600 local where my copilots woke me up (as I said, I was very confident) to give me the bad news. At current consumption, we'd be 1,000 pounds below our required minimum fuel at Andrews if we didn't refuel now. I didn't want to wake up the admiral, or for that matter, surprise all the Moffett brass before their first cup of coffee with a VIP visit, so I talked my flight crew out of stopping and pressed on.

Somewhere over the Plains it became obvious, even to me, that we were taking an unnecessary risk. In what would become my only example of sound judgment, I diverted to get some gas. If only that was the end of the story!

We had a nice lunch, and the admiral chit-chatted with the base's commanding officer. Then we all manned up to continue on our way to Andrews but soon discovered that our No. 1 engine had sheared a starter shaft.

These were my options in order of most prudence:

1. Tell the admiral I was sorry, wish him good luck getting to Andrews, order a starter, and get a BOQ room. Delay: two days.

Woody

2. Ask the admiral and 15 passengers to go back inside while we swap our No.1 and No. 2 starters; roll down the runway at approximately 90 knots to windmill-start the No. 2 engine; return to the line to load up our passengers and then depart. Delay: two hours.

3. Strap every one in real tight, roll down the runway at approximately 90 knots to windmill-start the No. 1 engine (just be "very careful" about control difficulties with the asymmetric power), and then just turn around and go. Delay: barely perceptible. It seemed like a logical conclusion at the time. One of my copilots was game (the other wanted me to sign a statement acknowledging his dissent), and my flight engineer was the best in the fleet (still is). We took option No. 3. Our first attempt got ugly real fast as we proved the concept of VMC Ground (that's minimum asymmetric-power control-speed on the ground). I corrected our stubborn directional-control problems with the old reliable brakes, quickly assuaged our distraught passengers after the starboard mainmounts came back down to earth, and told them to prepare for our next attempt.

Ted Carlson, Fotodynamics

Well, to make a long story short, it worked and we were on our way.

The rest of the trip was uneventful, in comparison, and the admiral made it to his destination. I assumed we could just keep this incident to ourselves. Not a chance! My wing commander found out about it. I suppose the gracious admiral called to thank him for all the "effort" we expended in getting him to Andrews.

My CO took the opportunity to give the OINC and me some much-needed career counseling. He said that he was not as much concerned that I had done a windmill start as he was with how I got myself in that predicament in the first place. He said that a prudent pilot would have planned on two legs. It was safer and forced you to plan on contingencies such as mechanical problems. An experienced pilot plans a flight with no unknown variables from start to finish. He does not want any surprises.

The wing commander was absolutely right. I still feel like a hacker for this one and deserve the moniker "Windmill Woody," but I guess you can now call me "experienced." ➤

LCdr. Woods flew with VPU-2. He is assigned to the Naval Safety Center.

Imagine flying at night, IFR, with nothing but a VGI, wet compass, clock, and altimeter. That's what we did during a low-level strike against the airfield on San Clemente. Weather was solid IFR with scattered cells of thunderstorms from 1,000 feet to 28,500 feet—no problem for an A-6 with a full system.

As we pulled off target in a 4-G break at 1,000 feet, our ADI suddenly indicated that we were full nose down, in a 75-degree dive. We selected our backup attitude indicator—our VGI—and it told us the same thing as the ADI, although the VGI was working properly.

Bang—just like that, we were partial panel. As we took stock of our situation, we noticed that all headings in the cockpit were frozen, with the exception of our wet compass. Great!

Then, we noticed that our TACAN was giving us a no-go light. It had been working before, so we climbed to try other stations that were close to us. No luck. My last mode of navigation was the INS and radar. The INS was frozen, so that was no help, and the radar was gradually dying. I could get maybe seven miles of range from it if I was under the clouds, but none within clouds. Now we were driving ourselves out from under the SOCAL 1177 corridor west of San Clemente.

Our next step was to contact our E-2 bubbas and get some no-gyro help back to the ship. They found us and helped us back overhead, where we went under ship radar control. We anchored overhead for 45 minutes while the ship recovered other aircraft. Then, the ship told us that they were ready to take us. They asked us where we were. Wait a minute! They were supposed to tell us! But, no matter what we did, we couldn't get back into radar contact. Squawking 7700 didn't help.

We were a "lost" aircraft. Even though we could see the lights of LAX and San Diego through the clouds, we were in the "blue water" ops mode and wanted to go back to the ship. Since the ship couldn't find us, and we couldn't find the ship, we were lost.

We climbed to 35,000 feet to conserve gas and waited while the ship diverted an E-2 from his approach to find us. It didn't take long, but when they found us, we were 50 miles northeast of the ship—and 20 miles from North Island. Given the weather, the equipment in our aircraft, and the lack of a suitable aircraft to join on us (an S-3 was available but couldn't get to 30,000 feet in time, considering our remaining fuel load), the ship diverted us to North Island.

The goods and bads of the mission were part of a big ready room discussion. On the good side, we had remained in contact with a squadron representative the entire time. He knew our situation and communicated with the air controllers about our limitations. We climbed to a VFR altitude of 30,000 feet and conserved fuel. When we finally figured out that we weren't in radar contact with the ship, we climbed even higher to allow more time before our fuel became critical.

On the bad side, we could have kept pimping CATCC for positive acknowledgement that they were painting us on their radar. They assumed we were in the radar hole overhead the ship when we were actually miles to the north. We should also have had someone join on us right away. Not wanting to fly form in the goo was a detractor for us, but having another aircraft lead us through the approach would have more than outweighed that inconvenience. ➤

LCdr. Bishop flew with VA-145. He is assigned to the staff of USCINCEUR.

Hey!
The Prop's Running Backwards!

By Lt. Scott Jones

We had just taken off on an operational mission in the Caribbean. While climbing through 9,500 feet at nearly max gross weight, we heard a change in rpm. Looking down at the instruments, we saw that the No. 3 propeller's rpm was rapidly decaying through 80 percent, and every annunciator light associated with the No. 3 engine was illuminated (chips, oil hot/press low, and prop pumps).

I called for the No. 3 emergency shutdown handle (E-handle) and directed my copilot (a nugget with only three months in the squadron) to level off at 10,000 feet.

After we pulled the E-handle, we began the emergency shutdown checklist. The propeller was still rotating when we reached item six on the checklist: "propeller… feathered." We then started procedures for when the propeller doesn't feather. At this point, the senior flight engineer (FE) and I looked out and realized that what we really had was a propeller turning backwards instead of a true failure to feather.

We abandoned those procedures and jumped on the procedures for a feathered propeller rotating backwards. During one of several attempts to stop No. 3 by alternately pulling out and pushing in on No. 3's feather button, the junior FE (in the seat) inadvertently let go of the No. 3 feather button. The next time I directed him to push in the feather button, he grabbed No. 4 (thinking it was No. 3), pushed it in, and successfully put No. 4 to bed. I was now staring at a feathered No. 4 propeller with the No. 3 prop still windmilling backwards. It was like a pilot trainer from hell with no training timeouts.

When I realized what had just happened, I immediately initiated restart procedures for the No. 4 engine. After that engine was back on line, and our heart rates dropped below 200, we determined No. 3 was just not going to stop and elected to land in the existing configuration. We RTB'd, dumped fuel, and made an overweight three-engine landing. The No. 3 propeller stopped rotating somewhere around 50 knots on rollout.

This flight drove home an important point: if you get yourself in a pickle, don't panic. Stick to the procedures you've practiced thousands of times. The old P-3 adage of sitting on your hands for a second or two really holds true. That is the only way you can dig yourself out of a hole before you become one of the smoking variety. Oh yeah, also 'fess up when you get back so someone else will learn from your experience. ◀

Lt. Jones is an instructor pilot with VT-27. He was flying with VP-8 at the time of this story.

He grabbed No. 4 (thinking it was No. 3), pushed it in, and successfully put No. 4 to bed…

Vance Vasquez

Most *Approach* stories ripen for a few years before the author actually writes them. I suppose most people need time to either separate themselves from the incident or to let the statute of limitations run out.

I was Dash 2 of a four-plane of TA-4Js on a weapons det at El Centro. The lead and Dash 3 were fellow student solos and Dash 4 was an instructor-chase with an IUT in the back.

Lead gave a standard brief and caught the standard critique from the instructor. We were nearing the end of the weapon syllabus and the instructors were expecting more from us. The weather was same as always—CAVU, except for the Imperial Valley haze at around 2,000 feet. The jets were working well, and today was a special treat. The ops guys had managed to wrangle some rocket pods for us. We checked on the switch settings and briefed the specifics of the delivery envelope.

The instructor cautioned us about fixating on the rocket as it left the pod and following it in to the target. We laughed, but he was serious. We read the books and signed for five rockets. We wouldn't be able to preflight the pods because they were sealed, but the ordies assured us that everything was 4.0. I guess I should have known the flight was going to be a keeper. Here I was, alone and unafraid in my mighty TA-4J, carrying rockets, no less. What could go wrong?

While sitting in the hold-short with our canopies open, I listened to the chatter on tower frequency, waiting for lead to call for takeoff. There was a lot of traffic overhead, and he was waiting for a previous flight to land. I was a little surprised when someone called for takeoff in front of us. In fact, they even used our flight's callsign! It took me a few moments to realize that it was my lead calling for takeoff. He had picked today to start working on his manly, John Wayne voice on the radio. There is no way to accurately describe my friend's "cool voice," but it was a real beauty. I laughed for five minutes. We took the active, ran them up, and took to the airways.

We entered the 30-degree dive pattern and started firing our rockets. On my first shot, I reached my firing parameters and squeezed off my first round. Wow! Look at that rocket go! That is just too neat! Oh yeah, I guess I better pull up now. Good thing that was just a practice rocket. I guess the instructor knew what he was talking about, after all. He had probably done the same thing when he was a student. The rest of my runs went well. I steadily marched the rockets closer and closer to the bull, looking for a rocket "E" to match my bomb "E."

I shot my five rockets, safed my switches, and continued in the pattern doing dry runs wishing I had one more shot. Finally, lead called next-to-last high run, and we transitioned to the low pattern for some strafing.

I had lead in sight as he rolled into his first run on the strafe target. I cannot tell you how surprised I was when a rocket leapt off his wing and headed for the ground. Take a moment to go back to your student days and how you might have dreaded making "The Big Mistake," the one that gets you kicked out of aviation altogether. You did not know what it was, but you would probably know it when you saw it. Well, I thought I had just seen it. My friend, the lead, was a good student, but he had rough days. What was he going to do? What would you do? Who would know what happened? Do you confess, or let it slide? Well, lead made the following call with a very heavy voice: "One is off safe, inadvertent firing of rocket on strafe target." I shook my head, knowing that was all she wrote for my friend. I could tell by his voice that he was worried, too.

We continued the pattern until lead called the next-to-last run. We closed up in preparation for the off-target rendezvous to expedite clearing the range. Lead was supposed to continue straight ahead until I called off, then turn for the join-up. You remember those off-target rendezvous, don't you? I couldn't find lead, so I called, "Two's off safe, none in sight." Dash 3 called, "Three's off safe, one

in sight." And the instructor called, "Four's off safe, two in sight."

We joined up as a three-plane and looked for the lead. After an extra five minutes, we finally found him in the haze and put our four-plane back together.

Lead steered us back to the ranch while we started our hung-ordnance checks. Sure enough, I had two more rockets still in the pod. It turns out that our pods had seven rockets instead of the five that we had briefed. Lead had shot his five, then when an extra one came off, he thought he had miscounted. He forgot to safe the pod when he went down to the low pattern, and when he pulled the trigger, he fired his gun and rockets at the same time.

He kept it together for the return trip, did a good job with the hung-ordnance approach, and got us all on deck. When we returned to the line and shut down, I noticed lead was still in his jet as I walked past. He was sitting there, turning the engine, looking at the gauges, touching all of the controls, trying to suck in the naval aviation experience one more time, enough to last a lifetime. He knew, as I did, that he would never be in a jet again.

The debrief was solemn as the lead talked us through the flight, covering all of the details, the strafing run, the off-target rendezvous, the hung-ordnance approach. I felt for him. I really did. What would the instructor say? Would he take lead to another room and tell him about his down or just do it in front of the flight?

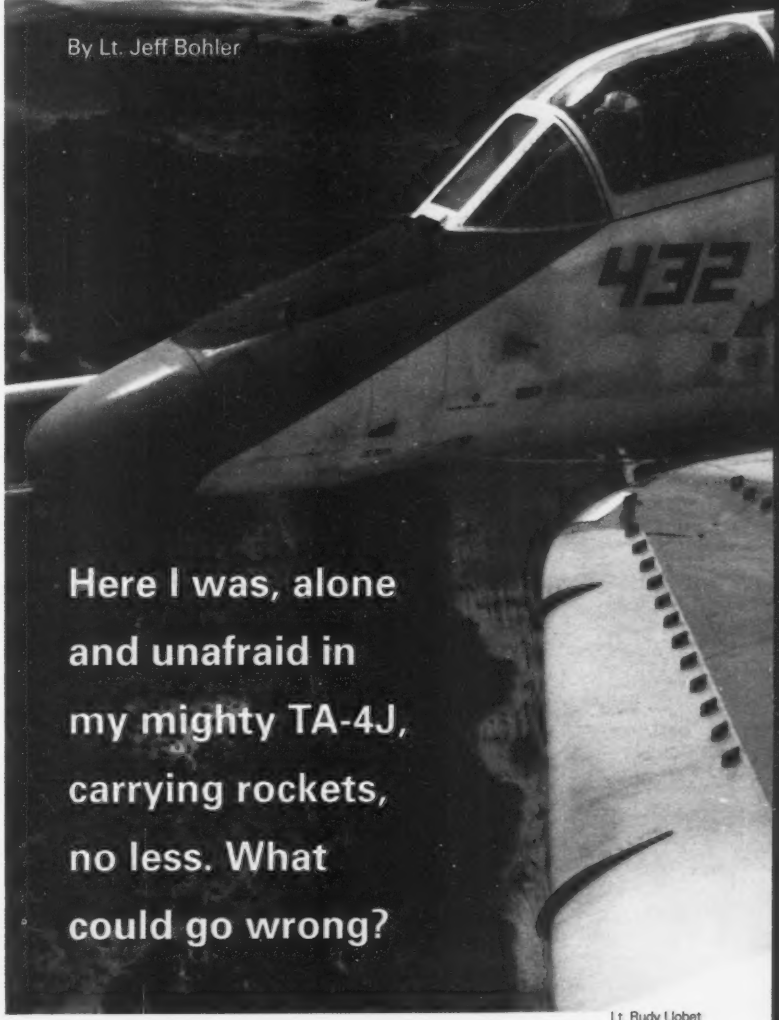
"Good job," the instructor said, "a really nice hop today." It turns out that the instructor had done the same thing when he was a student. He gave lead an above for the hung-ordnance approach, and gave me a below for the off-target rendezvous.

Here's what I learned from this hop. Listen to people with the experience; they've been there. When something unexpected and bad happens, keep it together like my friend did. Know your switchology and weapon. ◄

Lt. Bohler flies with VS-21.

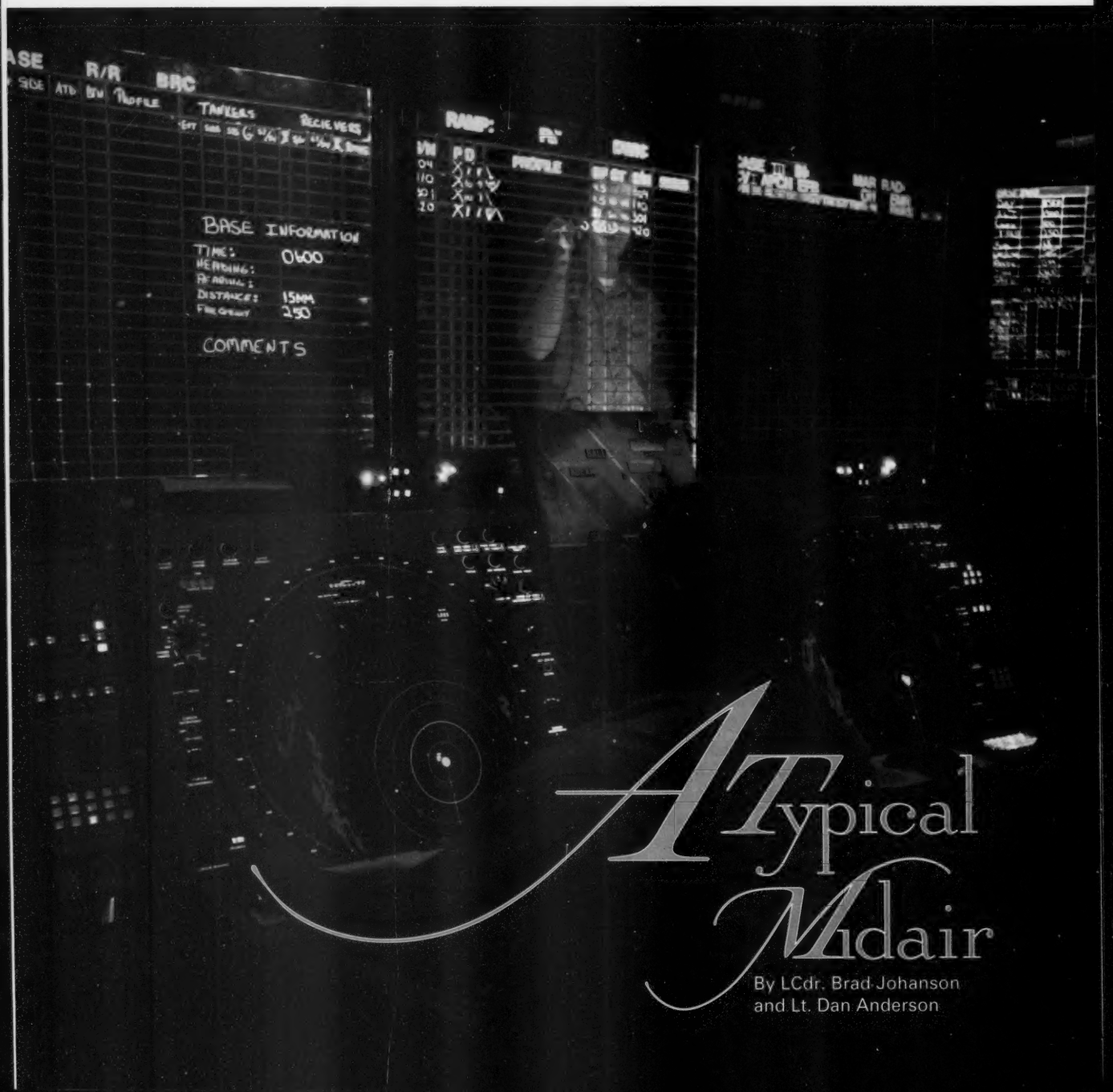
The BIG Mistake

By Lt. Jeff Bohler



Lt. Rudy Llobet

This story has it all: spatial disorientation, near-death experience, time compression, awe-inspiring crew coordination, even green ink.



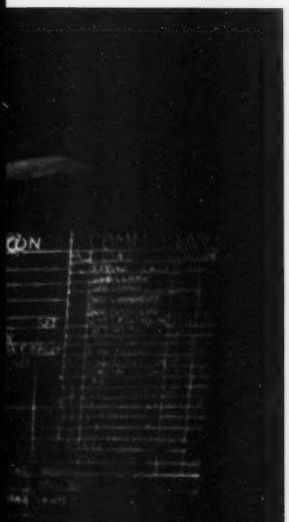
Atypical Midair

By LCdr. Brad Johanson and Lt. Dan Anderson

It was a typical night in the northwestern Arabian Gulf, which is to say that it was most atypical for CV ops. We had just returned from a Southern Watch hop. The visibility was restricted because of haze, and the night was as dark as it could get. There was absolutely no horizon.

The airspace was limited because of stand-off requirements from coastal land masses and what was affectionately known as "FNAEB Island." Ducting layers virtually wiped out communications with CATCC.

PHAN Gallagher



During most of the recovery, the air wing could hear Marshal, but Marshal couldn't hear us. In short, there was a serious comm jam.

Our marshal stack was about 70 degrees to the never-steady final bearing. The CV-1 wasn't in use, and all aircraft got a radar approach after push. Of the first eight aircraft on the recovery, none made it aboard. There were four foul-deck waveoffs and two bolters; two aircraft (including us) remained clean and were taken over the top at 2,000 feet.

Early in the recovery, Approach's cup had obviously runneth over. They would soon share their bounty with us.

We pushed from marshal, and at 10 miles, passing through 2,000 feet, Approach told us to "maintain angels two, expect to pass over the top because of priority traffic."

We leveled off at 2,000 feet and headed inbound to the final bearing. At four miles, Approach told us to turn left to the downwind and maintain angels two. Looking left, we saw traffic at our 9 o'clock and 11:30 positions. It was immediately evident that we would cut out the traffic at 11:30 if we followed those instructions. We told Approach about the conflict. They replied that the traffic was at 3,000 feet and told us to maintain 2,000 feet and turn left to the downwind. As we started our turn, we were heading for the traffic at angels three.

Pilot (referencing the 11:30 traffic, now moving to one o'clock): This doesn't look right at all. Keep a close eye on that guy.

BN (with 45 degrees of turn to go): This isn't going to work out. You need to roll out.

Pilot (after regaining sight): There is no way that guy is at 3,000 feet!

What happened next, happened fast. We were faced with either pulling up and losing sight of the traffic, or maintaining sight and trying to pass below and behind him. We decided for the latter and made an underrun. CPA was about 100 feet from the other aircraft. We bottomed out at 800 feet. On the climb back to 2,000 feet, we told Approach in high, squeaky voices about the NMAC.

After all the finger pointing and name calling in CATCC ("You tried to kill us!" "Oh, yeah? You deviated from altitude!"), we reviewed the tapes and everyone learned something.

First and foremost, the traffic we saw and the traffic that Approach thought we saw were different. The traffic we called at 11:30 was really a Tomcat off the bolter at 1,200 feet turning to downwind. The tapes revealed that he was a little high at 1,500 feet. The traffic Approach thought we saw was an Intruder on downwind at our 9 o'clock at 3,000 feet.

We experienced spatial disorientation because of our rendezvous course on traffic that we were told was 1,000 feet below us when it was actually 500 feet below us. Also, he was dirty, and we were clean, which resulted in 100 knots of closure.

We also learned that in-close to mother, CATCC's radar picture is degraded. Traffic just off a bolter or waveoff is initially invisible. As a consequence, the only traffic Center could see was the A-6 at our 9 o'clock, which was, indeed, at 3,000 feet.

Did Approach try to kill us? Absolutely not. As always, they were doing everything they could, within the limits of their equipment, to provide adequate separation.

Did we deviate from altitude? Absolutely. And we would do it again. The final responsibility for safe operation of an aircraft rests with the crew. Given the extreme environmental challenges, the dynamic carrier environment, and our spatial disorientation, we used our best judgment and avoided the other aircraft and the water.

By the way, the Tomcat we nearly collided with never saw us descending down his wing line. ◀

LCdr. Johanson is a BN and flew with VA-95. He is assigned to the Naval War College.

Lt. Anderson, a pilot, flies with VA-95.

Famous Last Words:

"Our Plate's Too Full"

By LCdr. Tom Ganse

• The *safety officer* said, "Let's have a safety stand-down. We can talk about maintenance-malpractice lessons, emergency procedures, aircraft systems, malfunctions and basic airmanship. In the afternoon, we can have a mishap drill and do Aircraft Mishap Board training."

• The *maintenance officer* said, "We've got three phases due, a bunch of specials and aircraft washes. We're preparing two transfers, and we're getting another jet in the next couple of weeks. Our up-gripe count is building; we have to work it down."

• The *ops officer* said, "The CWTPI is coming up; we need to study for that. We need to bounce for the boat, we have two mini-dets before our next at-sea period, and most of the guys are out of qual in ACM."

• The *admin officer* said, "FITREP inputs are overdue, and we're behind in change-of-command preps. The MO owes me a bunch of evals."

• The *XO* said, "We need a hangar inspection, barracks inspection, PRT and unit sweep. Ready-room rehab starts next week, and we need to get some people to the ship to rehab those spaces."

• The *CO* said, "Nice idea, safety officer, but our plate is too full. It'll have to wait for a better time."

Three days later, the safety officer said, "We just lost 313. The pilot was killed."

Two weeks pass

The maintenance officer said, "Losing those two-dozen guys for mishap cleanup has put us way behind. I can't believe how much maintenance we've missed."

The ops officer said, "Losing a pilot and three division leaders to the AMB, plus the reduction in the number of aircraft available, has put us way behind on training. We're going to be C-3 this month and may not even be able to execute our OPTAR."

The admin officer said, "Losing two yeomen for AMB support has put us way behind on FITREPS, evals and change-of-command preps. CACO duties and the JAG investigation only makes it worse."

The XO said, "How am I supposed to do a hangar inspection with what's left of an airplane strewn throughout the hangar bay? And when will we be able to get our rehab team out to the ship? This has put my program way behind."

The CO said, "The memorial service and facing Ace's survivors was the most difficult thing I've done. It's been on my mind so much that I've fallen way behind."

Another two weeks pass

The AMB said: Maintenance technicians were under pressure to complete installation of part to make scheduled launch. Maintenance control released aircraft safe for flight before MAF sign off was received, verifying corrective action complete. Shortly after takeoff, improperly installed part worked loose creating an uncontrolled engine fire. MP (who had been on duty 42 of the last 72 hours, and who had not eaten since the previous evening) improperly executed procedures for engine-fire light and single-engine approach. At heavy gross weight and full flaps, aircraft could not maintain glideslope to runway threshold. MP attempted to "stretch" the glide to runway threshold, decelerating below single-engine flying speed. He departed controlled flight at low altitude and was immediately out of the safe ejection envelope. Aircraft hit the ground 2,500 feet from runway threshold. Fatal injuries to MP during ejection.

The CO said, "We should have done the safety stand-down." ◄

LCdr. Ganse is a former A-7 and F/A-18 pilot. He is currently assigned to the Naval Safety Center as a mishap investigator.

Help Your Shoe Buddies

By Lt. John Harris

After returning from a six-hour SSSC mission, which lasted into the early morning hours, the last thing on my mind was flight procedures and safety. After all, the crew swap was routine, and our SH-2F Seasprite was flying like a champ. I figured that I would venture down to my stateroom and unwind after a long night.

I set my plan in motion by pushing a pencil around until my rack beckoned. No sooner had I closed my eyes than I heard, "Flight quarters, flight quarters," over the 1MC. I assumed that the helo had a minor problem, probably a chip light. After deciding that this was of no concern and that I should go back to what I was doing, another call upgraded the situation to an emergency.

How could I help the aircrew? My first instinct was to dash to the tower to ensure that the crash crew was properly formed. However, I saw another aviator racing in that direction as I made my way out the door. Now what?

After a moment's hesitation, I ran toward the pilot house. The other aircraft commander met me along the way and told me that he was headed for CIC. I arrived on the bridge to find that the ship had already turned to close the helo. The aircrew reported that they had experienced a compressor stall in the No. 2 engine and had shut down that engine. The captain and OOD immediately hit me with a barrage of questions. "How critical is the problem? How well can they fly on one engine? What is our best plan of action?"

I promptly answered them, and after some contemplation, I recommended, "Close at full speed and compute a BRC (base recovery course) and speed that will provide between 35 and 40 knots of wind down the lineup. Turn to that course when we're two miles from the aircraft. Cut down on radio communications so you don't distract them in the cockpit."

Kaman Aerospace Corporation

The ship complied, and the helo recovered.

Afterward, we discussed the emergency in detail. All agreed that the aircrew did an outstanding job in the air, but just as importantly, the ship provided excellent support for a smooth recovery.

Although our role as aviators outside the cockpit during an emergency may not seem important, it should not be ignored. We can't expect our surface warrior counterparts to fully understand the nuances of every emergency we experience. We must be available during an aviation crisis. It's also important to have a plan before the emergency. Send the most experienced aviator to CIC to provide assistance to the aircrew as required. Direct another pilot to the bridge to make sure the ship responds correctly. If another aviator is available, point him toward the tower to assist the Helicopter Control Officer and to act as a safety observer.

Remember, climbing out of the cockpit does not relieve the aircrew of their aviation responsibilities. Always be ready to support your bubbas in the air.

Lt. Harris flew with HSL-34. He is assigned to the Naval Postgraduate School.

It's always a good idea to have a det pilot in CIC or on the bridge during an inflight emergency. However, there are times when it's not possible–or it just doesn't happen. A cheap insurance policy is to keep laminated copies of the shipboard emergency procedures section from the NWP-42 handy in CIC, on the bridge, and in the tower. This section is a ready reference to shipboard procedures for helicopter emergencies.–LCdr. Paul Romaine, LAMPS analyst, Naval Safety Center.

I Was Very Dis-strut Over the Situation

By AWC(AW) Steven B. Connolly

I was pleasantly surprised to find out that my Friday afternoon pattern hop had been changed to a cross-country to drop off a tailwheel strut at the NADEP for an EI. The weather was CAVU, and I had flown many times with these two pilots.

After the brief, the pilots went to base ops to file while I looked at the ADB. It was late, so most of the squadron had broken down. However, the maintenance chief told me that there was a crew standing by to load the part and launch us.

I filled out the NAVFLIR, got the SAR bag, and headed toward the helo. I wondered what the chief meant when he said there was a crew standing by to load the part. After all, the tail strut is only about four feet long and eight inches in diameter. Why did we need a crew to load it? Maybe it was really heavy.

My questions were answered as I got to the aircraft. I was horrified to see a crate that was at least six feet long, three feet high, and just as wide. Now, this might be chump change for our brothers in larger types, but this crate was going to fill my Seahawk's cabin.

The crate wasn't in the aircraft yet, so I thought I could be misjudging its size. We removed the extra seats, and after about five minutes of grunting, groaning and saying, "One, two, three, lift," we got it into the cabin. There I was, sitting in my seat looking at about a foot-and-a-half of daylight out of the cabin door.

Now, this might be chump change for our brothers in larger types, but this crate was going to fill my Seahawk's cabin.

All I could do was picture myself strapped into my seat, unhurt, with the aircraft on its side, after an autorotation into some farmer's field with good ol' mother earth pressed against the SENSO's window and the crate perched over me, with the smell of JP-5 all around. No way!

I went back into the squadron and told the SDO that it just wasn't safe to fly with the strut out that way. He checked with the XO and made other arrangements to deliver the strut.

Somewhere in the past 2,400 flight hours, I learned when to say when. But, when *was* that? What if I had been a newly arrived airman? Would I have had enough smarts to realize this situation wasn't right and speak up to the all-powerful maintenance chief?

Looking back on my career, I probably wouldn't have said anything. So, I put the word out Monday morning, emphasizing the need for new guys to speak up. My fears were realized a few weeks later when a salty third class, who had just returned from deployment, told almost the same story, except that he made the flight. He didn't realize how unsafe things were until after he recovered.

In peacetime, there are no parts that anyone needs that desperately. ➤

Chief Connolly is assigned to HSL-48.

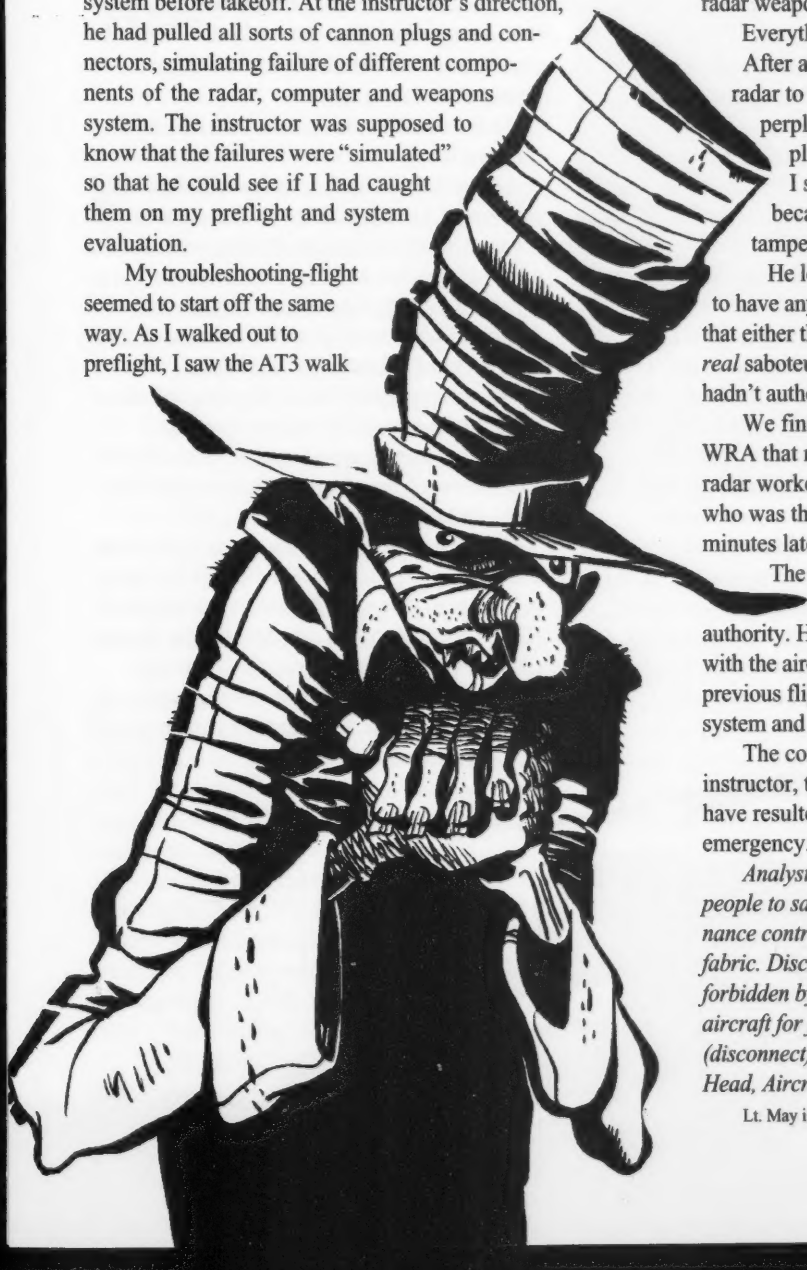
The Saboteur

By Lt. Donald May

I had only two flights left to complete the Cat 1 syllabus at the FRS. My second-to-last flight was dedicated to troubleshooting, and I felt ready for anything. The previous flight had included a lot of troubleshooting, and I thought I had seen everything an instructor could throw at me.

During that earlier flight, a clever AT3 "sabotaged" the system before takeoff. At the instructor's direction, he had pulled all sorts of cannon plugs and connectors, simulating failure of different components of the radar, computer and weapons system. The instructor was supposed to know that the failures were "simulated" so that he could see if I had caught them on my preflight and system evaluation.

My troubleshooting-flight seemed to start off the same way. As I walked out to preflight, I saw the AT3 walk out of the plane with a grin. Sure enough, I caught a plethora of faults. The third class had outdone himself this time.



Once I finished preflighting, I turned on the system to see if I had caught all the problems. As I turned up the radar, it was obvious that something was wrong. Had I missed something? I didn't think so, but I went back to re-preflight the radar weapons replaceable assemblies (WRA), just in case.

Everything seemed in order.

After another 10 minutes of not being able to get the radar to work, I asked my instructor for help. He seemed perplexed, so I told him about all the loose cannon plugs and connections I had found on the preflight. I said I wasn't surprised that the radar didn't work, because I had never seen some of these connectors tampered with before.

He looked surprised and told me that he hadn't planned to have any faults induced before the flight. I let him know that either the AT3 had created a lot of problems, or we had a *real* saboteur at work. The instructor re-emphasized that he hadn't authorized any tampering with the system.

We finally sorted through myriad faults and discovered a WRA that needed replacing. Eventually, it was swapped, the radar worked, and we were at last ready to launch. The XO, who was the pilot, was very disturbed about taking off 30 minutes late. After the flight, he spoke to us and the AT3.

The AT3 confessed to inducing all of the faults. He said that he was working under the instructor's authority. However, the instructor who had told him to tamper with the aircraft was not my instructor, but the one on the previous flight. In other words, we "broke" a perfectly good system and launched 30 minutes behind for no reason.

The communication breakdown between the first instructor, the instructor on my flight, and the AT3 could have resulted in a canceled flight or a more serious inflight emergency. ◄

Analyst's Note: The practice of instructor pilots ordering people to sabotage aircraft without first going through maintenance control went away when we stopped covering wings with fabric. Disconnecting anything without a MAF is strictly forbidden by the 4790. Only maintenance control can release aircraft for flight. No officer or CPO will do that if there are (disconnect) MAFs against the bird. — Cdr. G.D. Walker, Head, Aircraft Maintenance and Material, Naval Safety Center.

Lt. May is an NFO with VAW-113.

Do I Get a Merit Badge for This Maneuver?

By Maj. Peyton DeHart, USMCR

As a former Scout, I was delighted to be assigned to a static display for a group of those young men who were camping on Camp Lejeune. We flew our Cobra attack helicopter and fielded questions for the better part of two hours. We were the Big Men On Campus.

When it came time to leave, we stationed the boys on the other side of the zone from the turning aircraft. I pulled into a hover, did a slow pedal turn, flew sideways for 10 feet, backwards for 10 feet, and then sideways again. It was the smoothest, gentlest box pattern I had ever flown… no antics for me. No one would accuse me of staging an unauthorized airshow! With that done, time to go.

I hadn't shown them anything fancy, and I wasn't going to. I was just going to leave… but, maybe, I'd show them how fast we could leave.

With that idea freshly sprung into my mind, I pulled all the power the engines had and pushed the nose hard over. Elementary aerodynamics dictates that all the power I yanked would be directed forward, and we would accelerate at an eye-watering pace. Actually, that was aerodynamics lesson number 2. Number 1 was that the vertical component of your lift vector must be equal to, or greater than, the weight of the aircraft, or you will lose altitude. I instantaneously realized that, at five feet off the deck, I had shortened my lift vector far too much. I felt the aircraft sink and did what any competent first-tour pilot would do: I froze on the controls.

The Cobra fell four feet before the forward acceleration, which was far less eye-watering than expected, kicked in. My heart slowed down when the aircraft stabilized in a flat run across the ground.

Since I hadn't crashed, it was time to turn my attention to the gauges, lights and horns that were going off in the cockpit, telling me that I had asked for more than maximum power out of the engines.

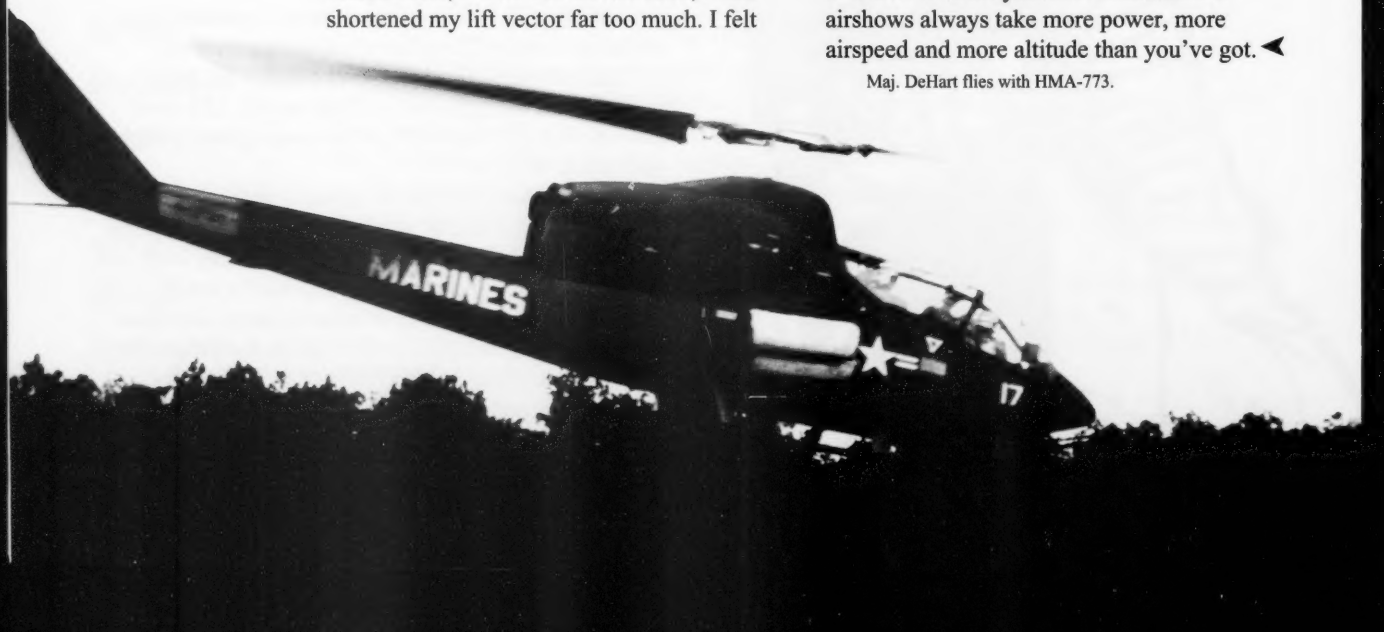
I scanned the instruments, then looked forward to see what one always sees at the end of an LZ in North Carolina–70-foot-tall pine trees! I had lots of knots, but no altitude. I was seconds away from making matchsticks of government-owned forest.

Not knowing whether aero lesson number 3 covered how much airspeed I needed to trade for 70 feet of altitude, I pulled back on the stick, spitting myself out of the zone, barely clearing the trees at 30 degrees nose-up.

Airspeed was now down to single digits, and I lowered the nose and flew straight and level for home.

I had nearly driven into the ground–from a stable hover! I had barely cleared the trees in the zone. How could I have been so dumb? Easy. I hadn't studied one of the most important laws of aerodynamics: unauthorized airshows always take more power, more airspeed and more altitude than you've got. ➤

Maj. DeHart flies with HMA-773.



Let's Take the Troubleshooter with Us!

By Lt. Ted Williams

We had just completed MAARP, flying section- and division-opposed low-levels. Today, we would fly alone on a great local low-level route.

"No hassles," I thought. "Let's just fly and have fun."

We briefed and manned up, but the jet went down. We changed to the spare. Anxious to take off, we started and went through the checks. I saluted the plane captain, and we were on our way… I thought.

As I started to taxi, I found that the aircraft required much more power than usual.

"OK, what's the problem?" I wondered. I went through a mental checklist.

"Chocks… pulled. Parking brake… in. Hmmmm-m. Maybe the jet is just a bit of a dog that's been parked in one spot too long. I'll go a bit farther." But things still weren't right. I called the plane captain back with a troubleshooter, who plugged into the external outlet for our ICS.

I pumped the brakes a few times, and they checked 4.0. We were sure that we had cleared up the problem and got another taxi clearance. After moving a few more feet, we saw the plane captain signaling us with a frantic "hold brakes" sign.

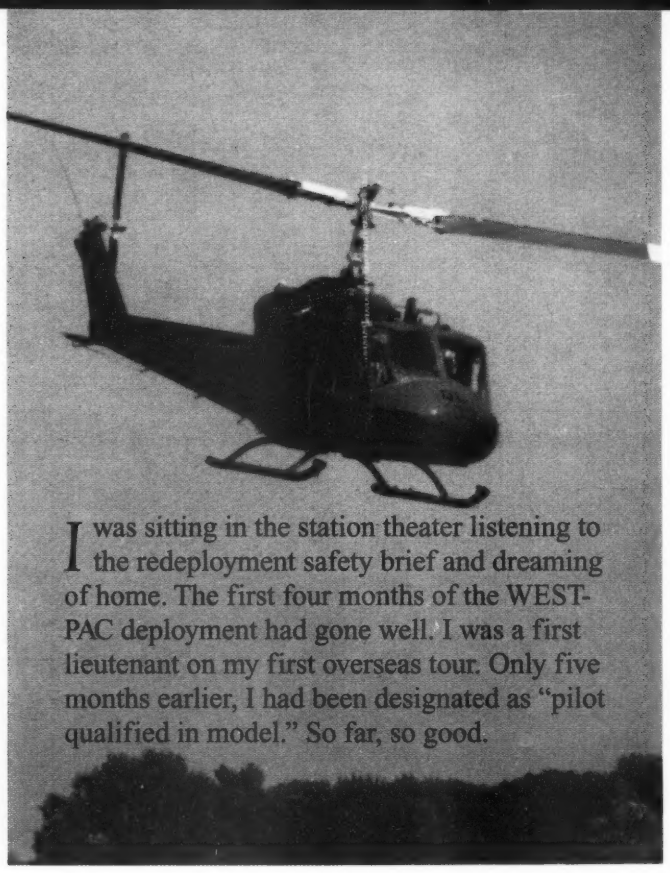
"What now?" I thought. We found that the troubleshooter was still plugged into our external ICS and wasn't ready for the workout I was about to give him by making him run down taxiway "A." We stopped, the troubleshooter unplugged, and we went on our way.

What may now seem to be a funny situation could have been dangerous. To start with, there was a misunderstanding between the pilot and the plane captain. I wrongly assumed that after receiving a thumbs-up, I was cleared to continue. Also, whenever people are working under the aircraft and the pilot has to release the brakes for a check, chocks should be in place to keep the plane from moving.

Last, and most important, we were acting like we didn't have a care in the world—easy flight, beautiful day. I let my guard down. ◀

easy flight, beautiful day . . .

Lt. Williams has flown EA-6Bs with VAQ-132 and VAQ-138. He is assigned to VAQ-141.



PQM + 2 FA

By Maj. R.G. Neilson, USMC

I was sitting in the station theater listening to the redeployment safety brief and dreaming of home. The first four months of the WESTPAC deployment had gone well. I was a first lieutenant on my first overseas tour. Only five months earlier, I had been designated as "pilot qualified in model." So far, so good.

Two Cobra pilots roused me from my daydreams.

"We've got a FAC(A) mission, and our bird just went down," the two captains told me. "We need a Huey pilot to fly us out there, and the flight officer volunteered you."

Well, OK, but I hadn't been out to the target area before, and being the rookie PQM that I was, I wasn't used to flying with a Cobra guy as a copilot.

After I changed into my flight suit, we began the brief. First, they explained that they missed the first CAS period but that we had time to make the second. Next, the two captains showed me where the Whiskey area was on the chart. The target was a small island–a sandbar actually–45 miles southwest of Okinawa. Then, they decided who would fly in the left seat and who would sit in the jump seat. Neither pilot had flown as a crewmember in a UH-1N.

Weather was going to be a factor. The field was calling 2,000 broken, 5,000 broken, with five miles visibility and thunderstorms in the area. The weather in the target area was supposed to improve. The front was moving east.

As one of the new guys, I tried to always have a thorough NATOPS brief. It must have been too thorough for the Snake drivers, who kept looking at their watches. Finally, we finished the brief, and while I signed for the aircraft, the other two began the preflight. With the three of us, the walk-around didn't take long.

A few minutes after we launched, Okinawa began to fade in the haze of the midsummer day. The weather was going to get worse before it got better. Conditions were 1,500 broken, 5,000 broken, a couple of cells out there, and visibility down to about a mile-and-a-half because of the haze. At 500 feet and 100 knots, it wasn't a problem. We just hoped that the area was workable when we arrived.

Fifteen minutes after feet wet, I thought I saw the mast-caution light flash. There it was again! Which of the caution lights was trying to light? This could be my first real emergency. Probably not something to get too concerned about, but maybe we would have to abort the mission.

"We have a transmission chip light," I said.

"OK," my left-seater replied, "you've got the controls."

But, since he didn't have the UH-1N PCL, he kept flying while I double-checked the gauges and flipped to the right page.

The first problem was the location of the nearest land. Having lost the Kadena TACAN

My pilot and I hadn't been crewed together long, but everything always seemed to click for us. He was, by far, the best pilot I had ever flown with. He joined the squadron right after Medium Attack Advanced Readiness Program (MAARP) training and the air wing's Fallon det. MAARP was when Intruders trained low almost exclusively.

I felt I was responsible for increasing his night low-level awareness. We went on the night schedule as much as possible. Winter time at Whidbey made this easy enough: a 1500 brief and a sunset launch.

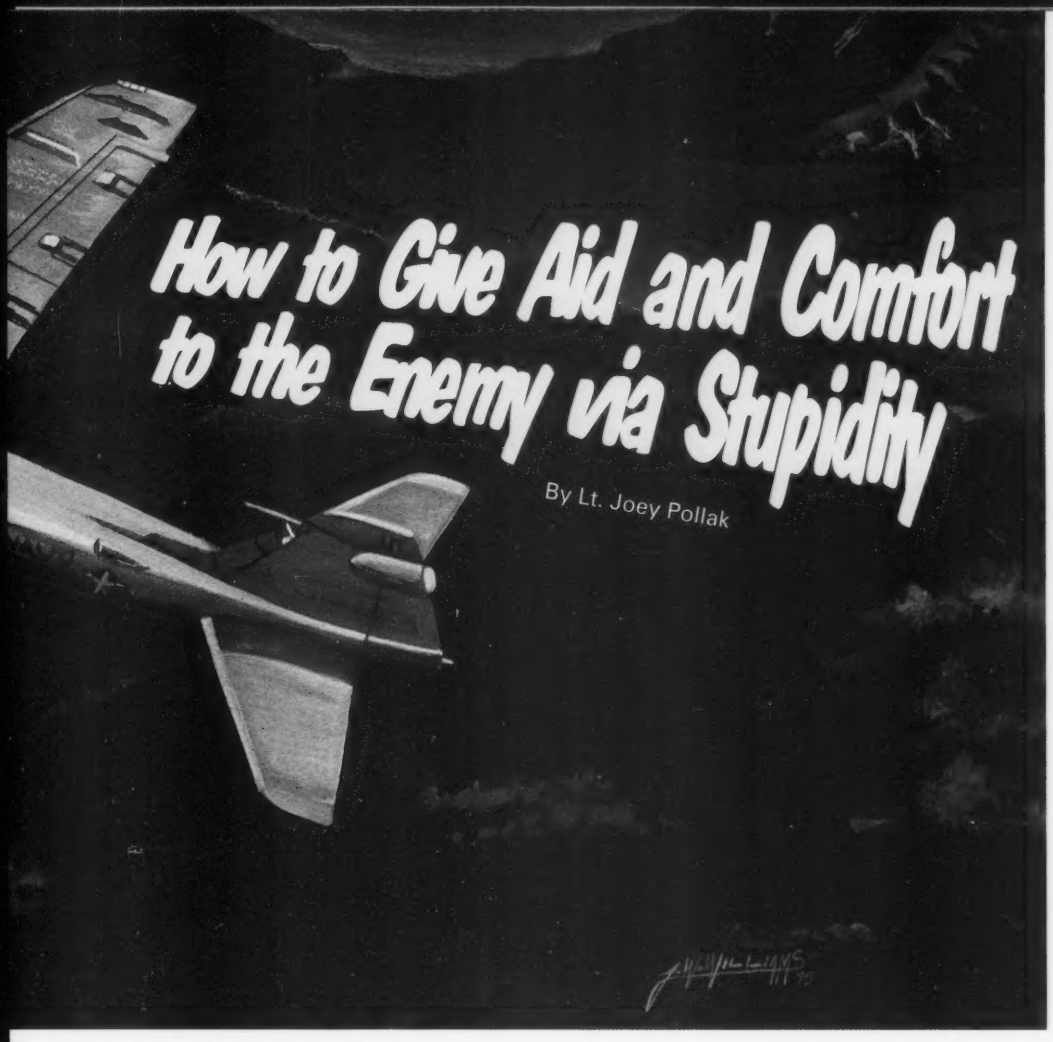
We almost always picked up a VR or IR route into our local bombing range for a first-run, tactical, low-level attack at 500 feet and 500 KIAS. Even this got a little old after a while, so when talk started about a night section flight, welded wing with an EA-6B Prowler on a VR route, my pilot and I happily volunteered.

I suggested that we should go alone first to make sure it was safe, and lo and behold, we were on our way. I was pretty confident, since I had already memorized the "best" route through the Cascades.

Ten minutes after we launched, a nice 5.5-G left turn put us on the route. It was dark but clear as a bell. Not that we looked outside that much; that would have been too scary. Heads down and do the job–that was my theory.

The route starts off benignly enough, but rapidly gets rough. We set up the display for about 800 feet of terrain clearance–higher than we usually flew, but, after all, this was a rough route. As it turned out, we should have flown higher.

We picked our way through the mountains, both talking non-stop. My personal goal was to cross the ridges at one-half the altitude selected. I figured that would give us about 399



How to Give Aid and Comfort to the Enemy via Stupidity

By Lt. Joey Pollak

feet of "slop." We started up this nice box canyon. After about four miles, I told my pilot to climb. At three miles, I told him to increase the climb. By now, we were bleeding down through 400 KIAS. At two miles, my voice was one octave higher, and I yelled for a hard climb. I saw the VSI pegged at 5,000 fpm, with the engines spooling up to MRT as the pilot pushed the "Go" levers as far forward as possible. What I saw next I had only ever seen in the simulator: my radar scope was completely black.

"Pull up!" I screamed, as I fought to get into position for ejection.

There were two possibilities: the radar had failed, or we were so close to the ground that the radar had no chance to get a return. As the radar altimeter showed somewhere below 100 feet, I figured on the latter, but decided to give it a final nanosecond. At 40 degrees nose-up, as quickly as it had disappeared, the radar picture came back. I called to level off and pulled the seat cushion out of my nether regions. Of course, when my stick asked "What do you want to do now?" I replied, "Let's go back down. You're clear out to five miles." Stupid. Another close call with a ridge 10 minutes later, and we were ready to call it quits.

Back at the line, we high-fived and then couldn't sleep. The next day, I told the Ops O that maybe he should reconsider the welded-wing thing with the Prowlers.

The next time I flew the route with my pilot, we opted for 1,200 feet of terrain clearance. Not nearly as exciting, but every bit as busy. I learned that lower is not necessarily better, or more tactical. If you don't get to your target because you smacked into a ridgeline trying to be too Sierra Hotel, the enemy will have accomplished his mission. And he didn't even have to fire a shot. ◄

Lt. Pollak is a BN with VA-115. He was with VA-52 at the time of this incident.

A New Miserable Experience

By Ltjg. Rob Soldon

It was a beautiful day at NAS Whiting Field. I was trying for the third time to finish the last flight in my primary syllabus, the Form 6 solo. I picked up my SV-2, and as I inspected my gear, I realized that my oxygen mask had passed the date for its inspection cycle.

"Well, I don't have time to go back to the paraloft now," I thought. "I never use this thing, anyway."

My form partner (another solo), the chase-plane instructor, and I briefed and manned up. We started up and taxied to the runway, ran our aircraft up to 400 ft-lbs, and since I was lead, I released my brakes and advanced my PCL to max power.

As the aircraft lunged forward, the engine seemed unusually loud. I checked my instruments and thought, "It's probably just because I don't have earplugs in today."

I rotated, checked my fuel caps and gear, and began an easy right turn toward the form working area. A few seconds later, my wingman screamed, "Chase, Dash 2, chase, Dash 2!" He sounded scared, which made me a little nervous. He reported severe controllability problems and oversped landing gear.

As he regained control, he realized that he had flown through my propwash, which made him swap 80-degree banks a few times.

Descending at full power made him think he had oversped his gear. He hadn't, so he slowed, retracted his gear, and began chasing me down for the join-up.

"Well, that was fun. At least I'll have a story now," I thought.

We were almost into the form area northwest of Whiting by the time we actually joined up. I was ready to begin the required maneuvers when I heard chase call me. "Uh, lead, your canopy's open."

I looked back to see the rear canopy open. The canopy had evidently blown open on the takeoff roll, hence the increase in noise.

"Well, I guess we're going home," I said.

As I turned the formation toward course rules to go home, I thought about what I should do and what might happen. I remembered that the T-34C NATOPS required oxygen masks to be worn if the canopy was open, so I called for a loose formation to allow me to don my mask. Soon after I put it on, I found that my mike didn't work. Maybe I should have turned the mask in.

I switched back to the helmet mike, but (probably because I was nervous) I began wondering if exhaust in the cockpit was giving me hot flashes. Imagining being unconscious in a fireball, I decided I'd go with no outgoing comms and the mask.

I told my wingman he would be taking the lead and taking us home. Unfortunately, I got no response because he misinterpreted my hand signal I gave as a channel switch, so he was on Approach's frequency. I quickly got my mask back on and passed him the "you have the lead" signal three times before he finally accepted it with a look of confusion. As we changed leads, in what was still a very loose formation, he seemed to go to max power and begin a turn away from the formation.

He was still on TRACON's frequency and quite lost. He never gave us a switch to TRACON because he thought we were already on that frequency. We couldn't see his signals from so far away, and we were having a hard time catching up.

So, here we were—my wingman (now lead) lost and trying to get vectors to course rules, not realizing that the two aircraft he was leading were a mile or so behind him and still on the TRACON frequency. I could still hear my radio, and I heard the instructor tell me to switch to Approach where we heard lead talking to the controller. The instructor took control of the situation and got us formed up and on course rules. Everything was great again until we got to the entry point to North Whiting. The chase instructor realized that the formation was on the wrong side of lead for the break.

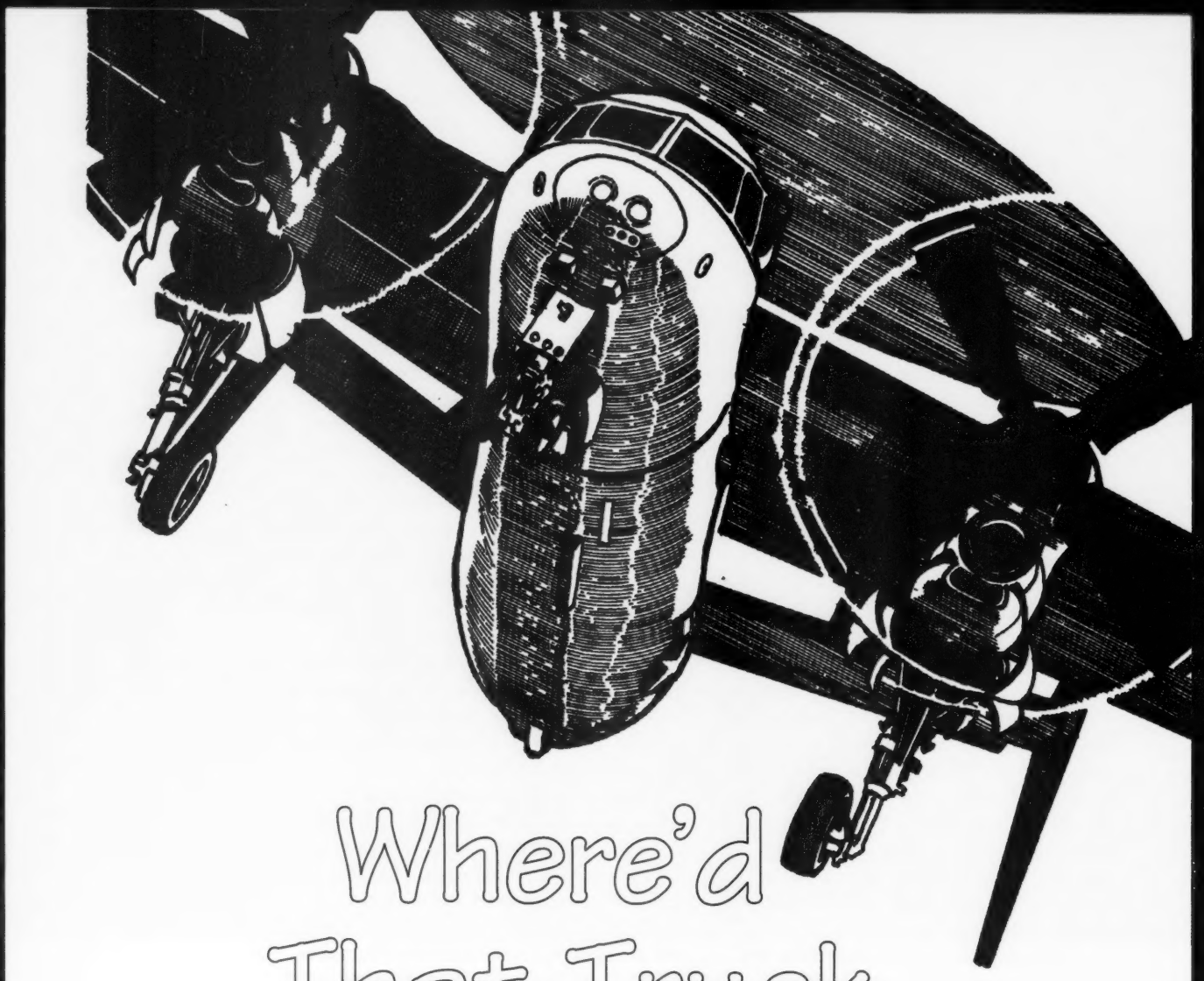
I heard, "Lead, chase, cross your wingman under, now!" I saw the cross-under signal, returned it and began the maneuver. As I began to cross from right to left, we arrived at the entry point and lead started a right turn to align with the runway. I didn't see the signal because I was below him, and he didn't wait for me to return it. He turned. I looked down to see where I was and decided to take it from there. Lead called for our landing clearance and told Tower about my problems. He nearly had them rolling crash trucks for me.

As I went through the landing checks, I thought, "Now watch my gear get stuck," but they came all the way down.

I landed, taxied and shut down, then discovered that the handle on the rear canopy was loose. I prepared for what I thought was going to be a very painful debrief, but it wasn't that bad. I then quickly tried to hide the evidence (namely, turning in my mask for inspection).

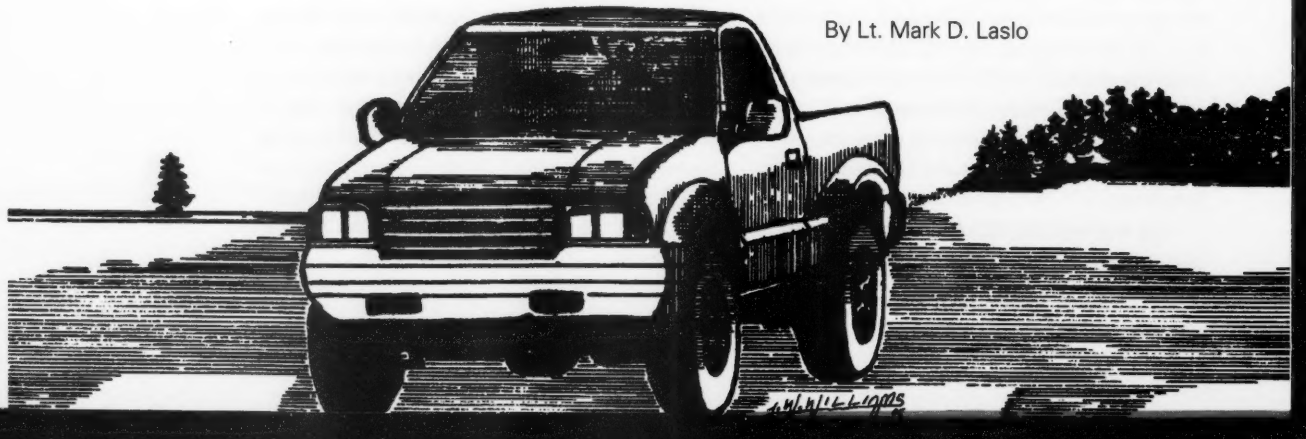
I think I learned more on this flight than any other flight in the syllabus.◀

Ltjg. Soldon flies with HSL-44.



Where'd That Truck Come From?

By Lt. Mark D. Laslo



My copilot's nose was close to breaking. His face would bounce off the yoke, and he would open his eyes only to doze again.

Since T-34 days, nearly every check flight has had some sort of "unknown" on the runway. Most instructors or NATOPS check-ride instructors are clever about which objects can be put in the middle of a generic air station's runway–dogs, fire trucks, Corvettes, wheels watches, cows, and maybe even the ex-wife. Of course, the unknown happens at the most peculiar times, usually when you are single engine, one barber pole, left wing on fire and zero-zero visibility over the landing threshold. Do any of these examples remind you of a check ride?

I was on detachment to Howard Air Force Base, Panama. Most E-2 pilots would rather do a triple-cycle recovery at night than volunteer for such an agonizing snooze-ex.

One night our crew briefed at 2100, but our launch slid. The crew tried to catch some shuteye on the concrete floor of our shack that served as our ready room, but those attempts at rest just didn't come close to good old "boat sleep." The powers who govern our operations then decided that we would take off around 0200.

It was easy to stay awake for the first hour. One of the dudes in back had the previous day off and kept the crew awake with a few current sea stories. Conversation soon faded, and it became excruciatingly painful to stay awake during the stretch between 0500 and sunrise. My copilot's nose was close to breaking. His face would bounce off the yoke, and he would open his eyes only to doze again. I felt my neck get jarred loose a few times before it was finally time to RTB.

As I pushed the nose over to hum down to earth, the copilot and I both noticed that the dawn haze was making the field invisible. We decided to ask for vectors to a PAR final just to avoid the early fliers over the "Ditch." Asking a Panamanian controller to provide vectors without at least a half-hour notice brings back memories of asking Dad to use the car for the first time. Through much agony and a few gastric clamps on the seat cushion, we arrived on final. My body began to relax as I heard the Air Force controller's voice whisper commands during my PAR. The gear came down, and we received clearance to land on a three-mile final. Using all my energy to concentrate, I was ecstatic to hear, "Approaching one mile, over landing threshold," when I glanced at the runway.

I saw a blue speck on centerline. Out of the corner of my eye I also saw my radar altimeter's yellow warning light, which was set at 100 feet, illuminate. My brain searched for the blue speck as I asked the copilot if he saw something and waved off.

Disbelief overwhelmed both of us as we saw a blue half-ton pickup straddling the approach-end arresting gear. I could only imagine the look on the poor soul's face as he looked up to see a funky, domed machine with two whirring man-eaters less than 100 feet and closing!

The entire crew was shouting, "Holy cow!" as we turned downwind. Everyone was so shocked that we were all talking at once. I called for the landing checklist and said, "Let's talk about this on deck!"

There was no truck on the runway as we made our second approach and landed.

Next time I have a check ride, I won't be so mad when an unknown is on the runway. I'll remember that early sunrise and the voice of the controller who was fired because of his lack of attention to detail. ◀

Lt. Laslo was flying with VAW-116 at the time of this story. He is assigned to VRC-30.

Dash 1 Becomes Is That Who Was

By Lt. Robert Dennehy

LCdr. W.D. Bankart

The weather was perfect, and we four experienced HACs were going to fly a little low-level VFR form to Pensacola. We did a detailed brief on who, what, where, when, intervals, maneuvers, and EPs. There were a lot of yeahs, uh-huhs and OKs. The same ol' stuff we've briefed a thousand times. We knew the route and were well aware of the gaggle that would await us approaching Whiting Field.

"Let's keep our heads on a swivel," we all agreed.

We flipped a coin for who would sign as PIC, grabbed two aircraft, and off we went to start our little training adventure. At the halfway point, Dash 2 became Dash 1, which left me in the left seat with the lead as we approached Crestview VORTAC.

The game plan called for the lead to make all calls to controllers on radio 1 and flight common (Winchester) on radio 2; wing would monitor both. Pretty standard stuff. As we (Dash 1) switched from Tallahassee to Eglin Approach, we learned that Crestview VORTAC was jammed with student instrument traffic and that the preferred route to Whiting was around the gaggle. No such luck as we were instructed, intercept the Crestview 240 outbound, contact Pensacola Approach, …blah blah blah. Click.

Over Winchester, we agreed that the sooner we got past the practice approaches the better, so we bumped it up to 150 knots, beat feet for the 240 radial, and switched to Pensacola. We could hear the familiar voice of the Pensacola controller, but he evidently could not hear us since he would not acknowledge our calls.

We climbed, we circled, we pronounced colorful expletives. No joy. Since Whiting Field was in sight and we were clogging up the course rules into Whiting, I decided to contact Tower for the visual approach. Tower cleared us to land behind our PAR interval.

I turned base, called for landing checks, and glanced out my left window to check my wingman. He was turning and climbing, fast. I quickly turned to my copilot to ask what was going on. What I saw made me laugh as his face was bright red, lips were moving a mile a minute, and spit was shooting all over the cockpit. I quickly flipped on Winchester in time to hear him scream, "What do you mean you're talking to Approach?"

Dash 2. No, Wait! Dash 2? Dash 1...?

PH2 Dave Loveall

I quickly turned to follow as my right seater tuned up approach (over Winchester) in time to hear Dash 2 (now Dash 1) get an earful from an irate controller. The PIC of Dash 1—a notorious politician—smoothed the ruffled ATC feathers as I rallied to catch up.

As I was leveled off in right echelon, a flash caught my eye. I looked quickly to the source and found a T-44 in a level, hard left turn, heading straight for me. I instantly dropped collective and rolled into a 45-degree diving left turn. We were dropping like a stone when it dawned on me that T-34s were probably on course rules back into North Whiting. Sure enough, there was a T-34 about a thousand feet below me heading in the opposite direction. So, up we went, sweating and cursing, to join in left echelon. Approach then vectored us around Pensacola, lecturing us the entire way, for an uneventful PAR into Whiting Field.

As we taxied to the line, I was looking for the serious gentlemen who wear suits and walk with the official FAA swagger, while my right-seater continued to curse, spit and swear that he was going to kill Dash 1.

After shutdown, we gathered to vent fury, point fingers and figure out what went wrong. It turns out that Approach had been receiving our transmissions all along, but by the time they decided to answer up we (Dash 1) had already switched to Whiting Tower. Dash 2, however, didn't make the switch to tower. They were monitoring approach frequency and decided to roger when Approach called.

ATC had wanted us to turn and climb to 3,000 feet to avoid GCA traffic into Whiting. Dash 2 delayed following the instructions in order to contact me (Dash 1). The controller was hot because our delay in compliance put us dangerously close to the T-44 on vectors for the PAR.

Who was wrong? Everyone gets a little credit. Dash 2 takes most of the blame for not following the briefed comm plan, not maintaining flight integrity, and for trying to run the show. During the annual instrument ground school, I told the FAA representative about this incident and asked for his appraisal.

He blamed Tower for not contacting Approach to tell them that he had control.

"With a flick of a switch, all that confusion could have been eliminated," the rep said. ◄

Lt. Dennehy flies with HSL-42.

Bravo Zulu

RM3 Brown, AMH1 Burns, AT2 Linzey Lt. Mahon, Lt. Wilson, Lt. Munnis, AE1 Meltzer, and AMH1 Ruane. Not shown: Lt. Parsons, Lt. Frank, AMH1 Herron, AT3 Elkin, RM1 Brandon, RM2 Sherman, and RM3 Kadlec.

Lt. Mike Mahon
Lt. Chet Wilson
Lt. James Munnis
Lt. Mark Parsons
Lt. Terry Frank
AMH1 James Burns
AMH1 William Ruane
AMH1 Bryon Herron
AE1 Bart Meltzer
RM1 James Brandon
RM2 Rodney Sherman
AT2 Ronald Linzey
AT3 Eric Elkin
RM3 Louis Kadlec
RM3 Susan Brown
VQ-4

Op Team Eight lost all hydraulics in their E-6A during a flight northeast of Bermuda. Because of the redundancies in the aircraft's dual-hydraulic system, NATOPS doesn't address such an emergency.

Total hydraulic failure results in losing thrust reversers, nosewheel steering, normal hydraulic brakes, anti-skid braking, spoilers, leading-edge flaps, and full rudder control. It also requires manually extending the landing gear and electrically operating the trailing-edge flaps. Aircraft maneuverability, crosswind control, and stopping ability are also severely degraded.

The flight-deck crew–Lt. Mahon (AC), Lt. Munnis (copilot), Lt. Frank (navigator), AMH1 Herron (FE), and AE1 Meltzer (FE)–ran multiple complex checklists and verified weather and landing data to ensure they could land safely at NAS Bermuda. Other crew members continued troubleshooting the hydraulic system. They found that the pressurization system for the hydraulic reservoir might be frozen, and they recommended that landing preparations be done at a lower, warmer altitude. A check of the hydraulics at the lower altitude did not show any improvement.

Without an answer to the problem, and with possible pump damage because of massive system cavitation, the crew dumped fuel to a safe landing weight and manually lowered the landing gear and flaps. They were now committed to land at Bermuda.

On final approach, the hydraulics returned. Unsure of the system's reliability, the crew secured the hydraulics, hoping to restore them once they were sure of the landing.

At eight miles, Approach told the crew that Bermuda's runway was wet from a rainshower. Without hydraulics, and with the current weather, a safe landing was not possible. Lt. Mahon called for all hydraulics to be brought on-line and made a visual approach to a landing. All hydraulic systems worked.

Postflight inspection found that a system flaw allowed the pressurization system for the hydraulic reservoir to freeze, causing the entire hydraulic system to fail.

Lt. Hensley, AMS3 Hobbs, AMH1 Petersen, and Lt. Howe.

Lt. Kevin Hensley
Lt. Greg Howe
AMH1 Brad Petersen
AMS3 J.C. Hobbs
HC-11

Sideflare 66 and its crew were participating in a vertrep and were on short final for the first external drop to the deck of USS *Tripoli*. There was no wind, and both the density altitude and the outside air temperature were high. The crew's load computation determined that the aircraft was within the single-engine flight envelope, but not within the envelope for single-engine, hover-out-of-ground-effect.

Lt. Howe (H2P) had just transitioned through 150 feet AGL and 50 knots to a 50-foot hover over the flight deck when AMH1 Petersen (second crewman) heard an engine winding down. He got the attention of AMS3 Hobbs (crew chief), who started emergency procedures for single-engine failure.

At the same time, Lt. Hensley (HAC) saw the Ng, Nf and torque indications for the No. 2 engine

winding down. He took control and directed the crewmen to jettison the load as he transitioned to forward flight. The H-46 began settling quickly toward the water. Rotor speed bled off to a critically low speed, causing the main generators to drop off line and disabling the automatic flight-control system.

As the HAC struggled to keep the Sea Knight in the air, the copilot started and selected the auxiliary power unit and started dumping fuel. The crew chief and second crewman quickly secured the aircraft's hatches and doors to ensure watertight integrity. They also positioned the rafts for quick access, then broke out the PCL to make sure that single-engine procedures were correct.

At approximately 50 feet AGL, Lt. Hensley regained control of the helo and established single-engine minimum rotor speed and airspeed. Then he started a slow climb along with a left turn toward the deck. The Air Boss cleared spots 3, 4 and 5.

Lt. Howe secured the fuel dumps after single-engine parameters were reached, then shut down the failed engine. He noted that T5 indications were stable at 930 degrees C and decided not to try restarting the engine.

Lt. Hensley made his final approach at 150 feet AGL and 70 knots. He flew a single-engine approach to spot 4.

BZs require an endorsement from the nominating squadron's CO *and* the appropriate CAG, wing commander, or MAG commander. In the case of helo dets, the CO of the ship will suffice. A 5-by-7-inch photo of the crew by a squadron aircraft should also accompany the BZ nomination. Please include a squadron telephone number so that we can call with questions.

Anymouse

A Plug for RAWS

"You're a good pilot," my instructor observed as he began our brief. "I've flown with you before."

I was nearly finished with the FRS. This particular flight was a night SAR-ASW training flight in the local warning area. We were both well-rested and ready for the hop. My instructor's brief was thorough.

"Report passing all altitudes below 500 feet in 100-foot increments to the pilot who isn't flying," he said. "That way, we can back each other up more closely." I nodded, thinking more about the maneuvers we'd fly than what he was saying.

We departed VFR and transited on course rules to the warning area. The instructor finished the checklist for the automatic approach as we neared our designated operating area at 500 feet.

As we entered the area, I dropped to 150 feet and completed two SAR patterns around a Mk-58 smoke to simulate picking up a survivor. The instructor then told me to prepare for sonar dipping.

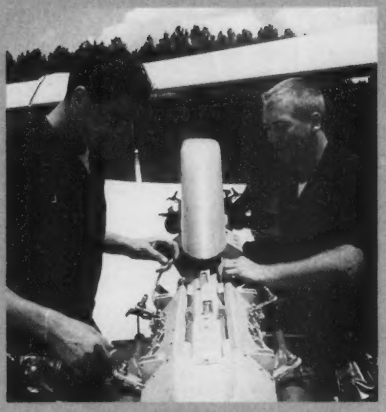
I wanted to impress the instructor, and I quickly reviewed sonar-dipping procedures in my head while he consulted his PCL.

Beee-eep! The RAWS suddenly sounded much louder than I'd ever heard it in the simulator. We both instinctively pulled up on the collective. The tone told us we were passing 100 feet. By the time we had stabilized and leveled off, we had climbed to 300 feet–but only after bottoming out at 60 feet! I had inadvertently pressed the collective trim-release button, disengaging the radalt-hold function (a normal procedure for climbs and descents). By not monitoring the gauges closely, I had nearly put us in the water.

What happened during the hop made it clear how important it is to know aircraft systems and to keep a good scan going. And thank goodness for RAWS!

Rawsmouse

Bravo Zulu



AN Carl Ranieri (left)
AOAN Kasey Morningstar
VFA-37

AN Ranieri and AOAN Morningstar were loading weapons on an F/A-18. During a break, they noticed a bent connecting link on the main landing gear.

Recognizing this as a downing discrepancy, they advised maintenance control, and the Hornet was repaired.

A bent or broken connecting link could cause the main landing gear to fail to retract, extend or lock. Their discovery in an area not related to their specific task may have prevented a mishap.

AMS3 Steve Jones
VP-46

AMS3 Jones operated an MZ-40 manlift to assist an AT with a job on an Orion. While they descended 34 feet, from the tip of the vertical fin, the boom-down line ruptured. They began a free fall toward the aircraft's horizontal stabilizer. AMS3 Jones immediately selected boom-up, which arrested the bucket's free fall, but did not completely stop its descent.

Realizing the danger, AMS3 Jones maneuvered the MZ-40 away from the P-3 aircraft, preventing injury to himself, the AT and damage to the aircraft.

Cpl. Richard M. Graddy, USMC
VMFA-451

As final checker, Cpl. Graddy began his inspection on an F/A-18 before it entered the taxiway. As he checked the nose gear, he saw metal shavings protruding from under the port inner-bearing seal. Feeling with his hand, he discovered that the shavings and side of the wheel around the bearings were hot.

He told the aircrew and maintenance control the Hornet was down, and supervised the inspection. When his crew removed the wheel from the axle, the inner components fell out and revealed severe damage and corrosion. The bearing was in pieces and loose inside the wheel. The inner race had been shaved down, and the shavings were also inside the wheel.

They cleaned the axle and installed a new wheel. This Hornet was one of three that had RONed in Korea the previous weekend during heavy rains. The bearing seal had failed and water seepage had corroded and damaged the wheel bearings. Cpl. Graddy averted a mishap.

AMS2 Joel C. Odom
VFA-203

On a squadron det, AMS2 Odom was final checker on early morning launches. When a Hornet taxied to final check, he detected a burnt odor around the right wheel well.

He traced the odor to the landing-gear control valve. The aircraft was downed and returned to the line.

QA found the valve had failed. If AMS2 Odom had not discovered the problem, a landing-gear failure was likely.

AEAN Nelson Quintana
HS-8

During a corrosion inspection of an SH-60F, AEAN Quintana noticed that the red tail-rotor, pitch-change link was loose, and the rod end was rubbing against the tail-rotor-pitch horn.

After he told his supervisor, other maintenance personnel inspected the pitch-change link, bearing and rod end. They found damage well outside acceptable limits.

Had this condition not been uncovered by AEAN Quintana, the continued deterioration of these components could have led to loss of tail-rotor control.

Save Your Skin with Aircraft-Panel Bags

by Lt. Bennie L. Wynkoop

You can walk into a hangar bay at any hour and see one or more aircraft that appear to have shed their skin. Panels, screw bags, engine-bay doors and loose parts are scattered all over the deck. Usually, maintenance people cover the floor to cushion the parts and protect the deck. However, there is danger for material left on the deck, especially aboard ship. Crowded conditions cause parts to get stepped on and bruised or mysteriously moved around the hangar bay. The worst problem is a respot of the aircraft because we have to move all the panels, hardware and other loose parts to the new location.

We decided we couldn't afford to allow this condition to exist in VA-75. The A-6E has many panels that take up a great deal of space and are difficult to repair or replace. To avoid that problem, we manufactured a panel bag that fits over the horizontal stabilizer and accommodates the largest panels we remove from our aircraft. It is made from common stock canvas and takes about five hours to manufacture.

Our panel bags have helped us to reduce the number of panels we damage, kept us from losing parts and have helped prevent FOD. The design is simple and can be modified for any naval aircraft. Protecting your aircraft's skin doesn't have to be a bruising experience. ▼

Lt. Wynkoop is MMCO at VA-75.

This panel bag takes only five hours to manufacture and saves time and money otherwise spent on repair or replacement parts.

It'll Make You Famous

by PR3 "Pop Top" Scott

I was checking into my first command, and like most new guys, I was ambitious and eager to prove myself. For my initial assignment, the maintenance chief sent me to help clean canopies on the squadron's A-4F and TA-4J Skyhawks.

Another airman quickly demonstrated how to open and clean an A-4F (Fox) canopy, then left me to my own devices. I cleaned the Fox canopy and moved on to the next plane in line, a TA-4J (T-Bird). Little did I know that I was seconds away from earning a nickname that would stick with me for years.

The T-Bird canopy-opening procedure differs dramatically from that of the Fox. To open the Fox, you push on a small door with your thumb to release the handle. When you pull the handle, the canopy opens.

On the T-Bird, however, you have to open up a large panel, extend a telescoping handle, and manually pump the canopy open. This was news to me since I had not yet been shown this procedure and didn't know there was a difference.

I tried to open the T-Bird the same way as the Fox. How, you ask, if the two panels are distinctly different, could I do it? The T-Bird has a small canopy-jettison panel in about the same place as the Fox's canopy-opening panel. The only difference is the T-Bird panel is labeled "canopy jettison." Not taking the term, "jettison," literally enough, I did a push-pull on the T-Bird's handle.

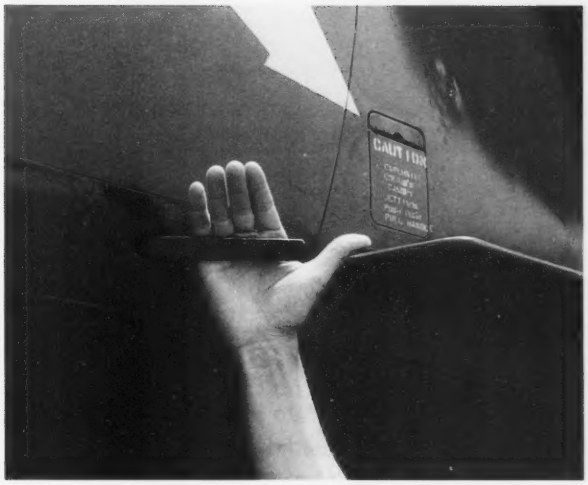
Imagine my surprise when the canopy *flew* 100 feet in the air, somersaulting away from the aircraft. It almost hit two AOs as it crashed to the ground. A new canopy costing nearly $100,000 had to be ordered and installed; our T-Bird was down for months.

Since this incident, my command requires all new check-ins to get a seat check-out and instruction on canopy-opening procedures, highlighting the all-important differences between the Fox and the T-Bird.

I've been careful when instructing someone on a procedure new to them. I try to consider their point of view. I make sure to ask them questions so that I know they understand. When I'm receiving instructions, I ask plenty of questions.

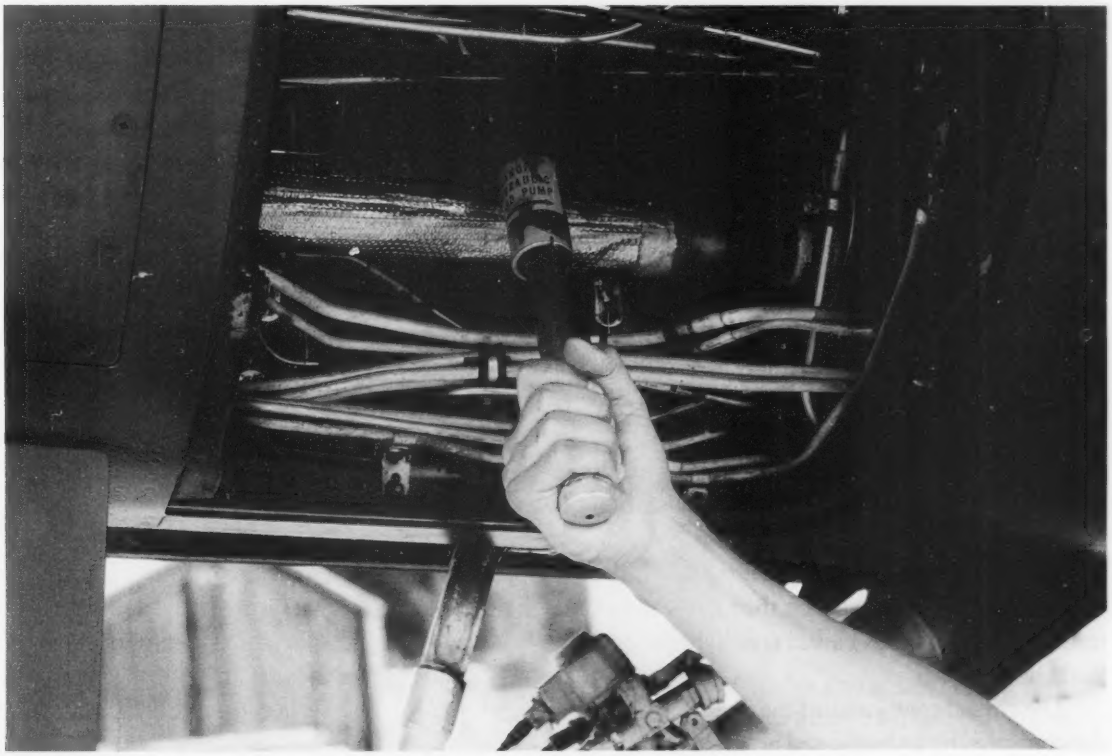
Take this advice to heart, especially you new guys out there, so you can avoid picking up an embarrassing moniker like mine: "Pop Top." ▼

PR3 Scott is assigned to VFC-12.



This lever opens the A-4F canopy.

The T-Bird has a small canopy jettison panel in about the same place as the A-4's canopy-opening panel. This panel can give you a big surprise if you don't know the difference.



On the TA-4J, you open a large panel, extend a telescoping pump handle, and manually pump the canopy open.

"Up, Down!"—CRUNCH

by AE2(AW) J.A. Turner

CAG maintenance wanted a quick op-check before nightfall. We positioned the jet for jacking with QA on the scene. After jacking the aircraft and securing it to the flight deck, I climbed into the cockpit to do safety checks while the team connected electrical and hydraulic power. We were ready.

The director signaled for half-cycle gear up. I raised the handle, but nothing moved. We'd forgotten to remove the ground locks — a harbinger of things to come.

After the troubleshooters removed the ground locks, the director again signaled gear up. I raised the handle and felt the gear retracting. This time, wanting to be sure the gear was moving, I looked away from my director to the indicators.

After verifying that the gear was indeed coming up, I looked back to the director who was excitedly pointing down. "Gear down, gear down!" he yelled, pointing frantically. After lowering the gear handle, I heard a loud *crunch* from the port side of the aircraft. I looked to port and aft to see the ground crew rushing over to the port main mount, clenching their fists and wincing. Others had looks of disbelief on their faces. A sinking feeling came over me as I asked myself, "What in the world have I done?"

The ground crew installed the down locks and disconnected the hydraulic and electrical power. I secured the cockpit and climbed down to learn what had happened: When I lowered the gear handle, the port main mount had run into the landing-gear doors. The up-lock hook punctured the No. 1 landing-gear door and ripped it free of its hinges, actuator and attaching brackets.

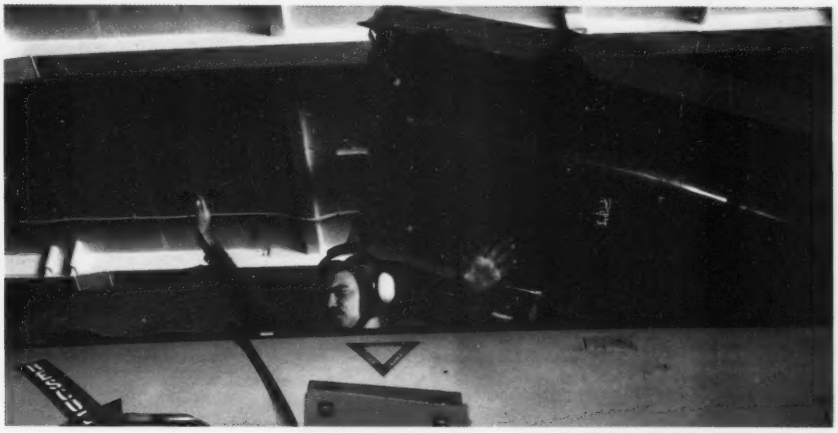
When you drop check an F-14, you have to move the gear halfway up and back to full down five times before fully cycling the gear. This bleeds air from the hydraulic system and reseats the shuttle and timer valves to correctly sequence the raising and lowering of the landing gear. The MIMs warns that if you don't do the half cycles before doing full cycles, you might damage the landing-gear doors. Without the half cycles, the doors could get in the way of the moving gear. The book was right. The gear had been raised too far up into the wheelwell and the landing-gear door had crept inward toward the moving gear.

Being an experienced F-14 technician and systems operator, I knew immediately that I'd failed to follow the most fundamental rule: *Never take your eyes off the director.*

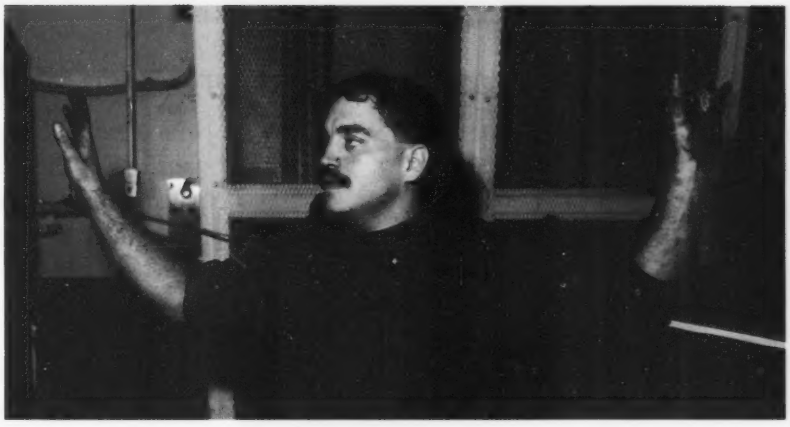
The cockpit indicator can't tell you when the gear is halfway up. That's why strict coordination between the director and aircraft operator is necessary. The director is your eyes on the deck. Only a split-second passed while my eyes were on the indicator — just enough for a crunch. ▼

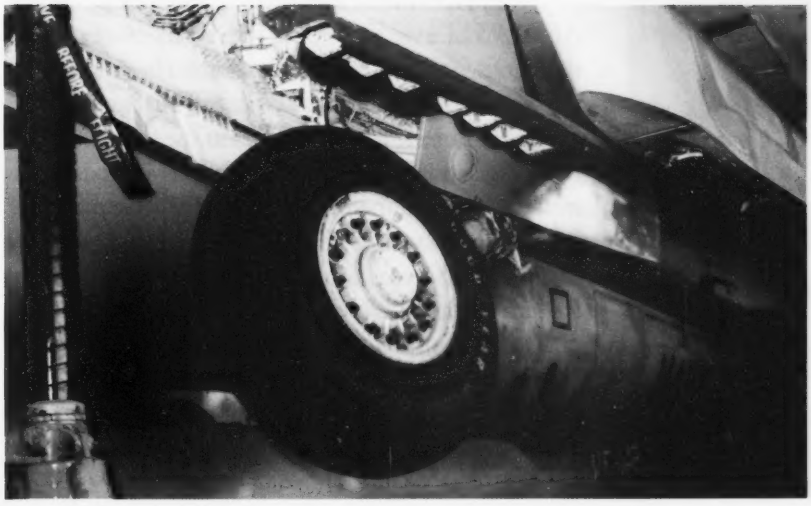
AE2(AW) Turner is assigned to VF-142.

When you do post-maintenance tests on the proximity switch on a Tomcat's landing gear, you have to do a drop check. I led a team of troubleshooters who repaired and tested this switch.



If you're operating from the cockpit, the director is your eyes during a drop check.





If you're a little slow following the director's signals during the half cycles, the doors can get in the way of the moving gear.

Grapes Make It Clean, Clear and Bright

by JO2 Lance Lindley

The helo was losing power. As rotor rpm decayed to 85%, the HAC ditched. The bird rolled inverted and sank, but the crew of four managed to egress safely. The bird had taken water-contaminated fuel from the ship; the grapes had not followed SOP before fueling the helo. This is but one example of what can happen if the grapes don't do their job right.

LCdr. Chuck Shirley, Naval Safety Center analyst.

A lot of factors go into launching an aircraft. One of them is clean fuel — or it will be a very short flight.

The air department's V-4 division receives, stores, tests, purifies and pumps the JP-5 used aboard USS *Independence* and the lube oil used by her four catapults.

When JP-5 is brought aboard during an unrep, it travels through V-4's transfer system into one of 53 storage tanks under the control of the pump-room operator on the seventh deck. He sends the fuel through a centrifugal purifier that spins at 4,100 rpm, separating water and sediment from the fuel. The fuel then goes to the four service tanks to await a trip to the flight deck. Combined, V-4's storage and service tanks can hold more than 1.5 million gallons of JP-5.

Before fuel can be fed into a thirsty aircraft, it has to be inspected a final time to make sure it is CCB-clean, clear and bright. This vital task falls to one of V-4's filter operators.

"When it's time to fuel aircraft," explained ABF1(AW) David Young, "we turn on a service pump that sends fuel up to the filter operator. He opens the inlet, checks the pressure and takes a visual sample," Young continued. "If there's water in the fuel, there will be droplets inside. Then he spins the fuel in his jar and makes a vortex. If there's water and sediment in there, it will dance along the bottom."

If the fuel is CCB, it is sent up to the fueling stations on the flight deck to be pumped into aircraft. If not, the filter operator stops the fuel at his station, sends a lab sample up to V-4's quality control, and contacts V-4's nerve center, which sends a man to check another filter station. If that fuel is contaminated as well, they try a different pump room.

ABF2 Marvin Moss refuels an F-14 while underway in the Western Pacific. Special care is taken to ensure aircraft get only clean fuel.

JOC Lance Johnson

Suppose the entire batch of fuel is below standard. Do the planes stay on deck until we get new fuel?

"Not at all. V-4 can purify bad fuel on board," explained ABFAN Robert Robinson. "First we run it through a pre-filter and a reclamation filter; then we send it on to the centrifugal purifier."

"It's a lot of work for the equipment, cleaning out water and sediment using just those filters," added Young, "so we check the fuel as it comes on board. Ultimately, it's the CO's call to accept or reject it."

V-4 is responsible for more than the storage and cleanliness of the JP-5 on board. They refuel the aircraft on the flight deck, control all the fuel-station isolation valves and provide the lube oil for the catapults.

These missions give the division of just over 100 personnel a lot to do, and when it comes to a dangerous, vital asset like fuel, there's no room for error.

"I'm a safety man," said ABF3 Cleveland Parker, a V-4 filter operator. "We make sure there's no water or sediment in the fuel to foul up the lines or to mess up engines. That helps to prevent accidents and keep the pilots alive." ▼

JO2 Lindley is assigned to USS *Independence*.

JO2 Lance Lindley

ABF3 Mark Mooney checks an aircraft fuel sample for water and sediment aboard CV 62. The JP-5 must be clean, clear and bright, passing numerous tests conducted by the ship's V-4 division.

The Voice

"Is there and what

By Lt. Mark A. Parcell

Most naval aviators develop a sense of awareness about flying. Good pilots, NFOs or aircrewmen know their aircraft well and anticipate what the aircraft is doing or is going to do.

That sixth sense isn't just the stick-and-rudder part of flying. It's a special perception that the aircraft is trying to tell you something is wrong. Sometimes the aircraft will say it in a loud voice. In that case, the crew member's decision is easy because the problem is evident. However, your aircraft can also tell you in a quiet voice that there's a problem. It will make you ask, "Is there something really wrong, and what should I do about it?"

A case in point occurred when my SH-60B quietly told me that something was wrong during the ground flight-control checks. I immediately got the message, but I took no action — bad decision.

Our Seahawk was to pick up two senior officers from the East Coast, transport them to homeplate and return them to their point of pickup after they'd finished their business.

I split up the preflight duties with a new NATOPS-qualified copilot. He took care of the tail rotor and ground sections while I checked the main-rotor head, engines and the upper-deck areas. Everything looked good right up to the systems checks before engine start.

I took the right seat and checked the flight controls and flight computers. All appeared normal, but a quiet voice deep in the back of my mind said, "There's something wrong with your tail-rotor controls; check it out."

There was a reason for the voice. During the flight-control checks, I felt a slight pinch in the tail-rotor pedals as I moved them back and forth. This slight restriction in pedal movement did not indicate a major problem. To complicate matters, if you move an H-60's controls too quickly during ground checks, the backup pump is overwhelmed and restricts flight-control movement. This results in a master-caution-panel light show because the system is telling the pilot he is moving the controls a little faster than the backup pump can handle. The pilot must slow down the flight-control movement to allow the backup pump to work.

I caught the restriction in the flight controls, then heard the warning voice and asked myself, "What's wrong here?" Simultaneously, I saw the light show and reacted to it by slowing the flight-control movement. The "pinch" disappeared. In my mind, a big flashing sign read "problem solved." I continued the preflight checks and got airborne. The flight proceeded normally, and we returned to homeplate, delivered our passengers and shut the aircraft down after logging 2.1 hours.

The postflight revealed that all of the fluid levels were normal and all panels and doors secure. Maintenance control ordered a turn-around inspection before our second go, which was scheduled to take off in a few hours.

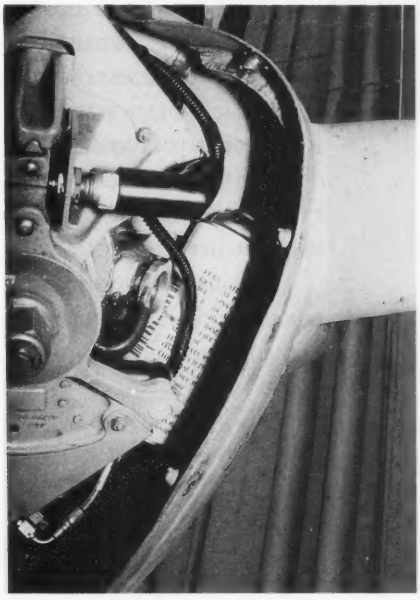
At last, the staff officers completed their business, and the aircraft was ready for preflight. Again, I checked the main-rotor head and was looking at the aft part of the aircraft when the copilot decided to climb the tail without donning a helmet. I still had my helmet on, so I stopped him and climbed the tail myself.

Over the years, I have read of many incidents concerning the H-60 and have added some items to

something really wrong, should I do about it?"

check during preflight. After looking at the tail-rotor-gearbox oil level and checking the blades, I climbed to the top of the tail and stuck my hand in the hand-hold hole at the back of the cowling to check the security of the tail-rotor-gearbox oil cap.

Lt. M.A. Parcell



The author found an aerosol can wedged in the tail-rotor quadrant. The can had been crushed on both ends. A scratch on the motor casing exactly matched the can.

NATOPS doesn't require you to check this, but I've found tail-rotor and intermediate-gearbox oil caps left off. Inside the cowlings, to my amazement, I found an aerosol can of VVL general light-lubricating oil. The can was wedged in the tail-rotor quadrant with the top up against the quadrant and the bottom pressed against the motor for the tail indexing arm. Luckily, the can was positioned so that it was free to pivot with the swiveling of the control quadrant. The can had been crushed on both ends but not punctured.

If I had made an approach to a hover for landing and executed a pedal turn on the spot, the can could have fallen and jammed the controls in a right or left tail-rotor position. I would have crashed and rolled over after hitting the ground. At best, it could have happened in forward flight and forced an approach with no tail-rotor control.

I now personally check the main and tail-rotor areas when flying with someone relatively new to the H-60, even if that person is NATOPS-qualified. And I still check the security of the tail-rotor-gearbox oil cap.

In polling other SH-60B aircraft commanders in my command, I found that about half of them consistently check the tail-gearbox oil cap. We are researching the possibility of a NATOPS change requiring the pilot to check the security of the tail-rotor gearbox and intermediate-gearbox oil caps.

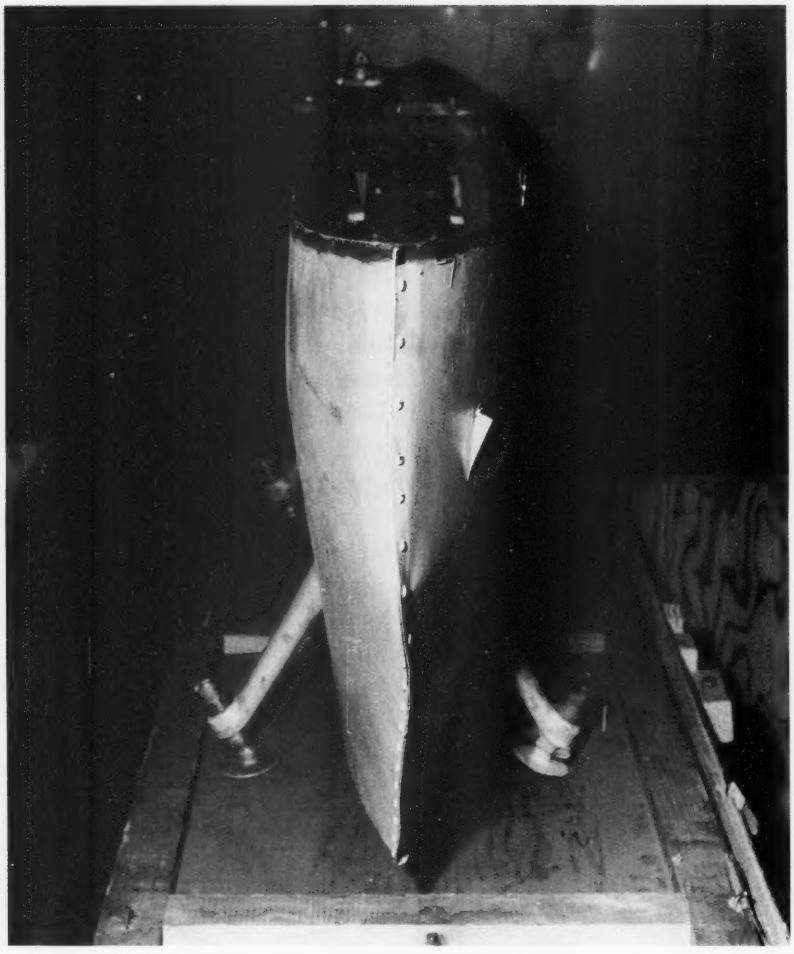
From a maintenance standpoint, we came away wondering why we use tool tags to sign out rags that are meticulously counted; yet, there was no way to account for a whole spray can of oil. To combat the problem, we constructed small metal kits that hold all the items a plane captain normally carries to the aircraft. Each spot in the kit has a designated item and gets inventoried before and after each use.

I have learned to respect "the voice." It has developed over many hours in Navy helicopters. When the voice speaks, you'd better listen to it. ▼

Lt. Parcell is an SH-60B pilot with VX-1.

Who Cares?
It's Broken Anyway

by AOCS(AW) Ken Randolph



A K-Pool pylon showing signs of careless handling.

Sea duty is a fast-paced, fast-changing environment. For an ordnanceman in a fighter or attack squadron, it can be a nightmare.

Configuring and deconfiguring aircraft-weapons equipment to support diverse missions takes a lot of planning. Bomb racks, missile launchers, weapons rails, fairings, pylons, cables and other ordnance equipment are in high demand. During surveys, I've noticed that people treat this much-needed equipment carelessly after they remove it from aircraft: they don't cap connectors, properly store the cables, or preserve or package the equipment.

Improper handling of this equipment violates OPNAVINST 4790.2E, Vol II, Change 4, para 9.6.1, which states, "All aeronautical material, regardless of its status, ready for issue (RFI) or non-RFI, shall be preserved, packaged, and handled by supply and maintenance personnel in such a manner as to prevent damage or deterioration."

Managing the armament equipment pool (AEP), commonly called the K-Pool, can be frustrating. An enormous quantity of equipment gets issued and turned in when ops orders massive reconfiguration of aircraft. You have to submit an AEP report quarterly. Accounting for equipment received and transferred during that last 90 days will turn your bookkeeping into a balancing act.

If you handle AEP gear that's been removed from aircraft, keep all the connectors capped, and store cables properly. If the gear is not going to be used again right away, turn it in or bag and tag it. Log your transaction (receipt and transfers) to assist in reporting. Just because an item is broken doesn't mean it's no good. If we treat all equipment as though it were brand new, maybe there will be enough to go around. ▼

Senior Chief Randolph is an ordnance analyst at the Naval Safety Center.

Self-Service, Full Service or Disservice

by AEC(AW) Edward S. Thompson

Waiting for a truck to start fueling an A-6E during turnaround, a PC figured she'd save time by topping off an NC-8 for the oncoming shift, leaving a trainee to monitor the aircraft's high-pressure lights.

Fuel trucks at the base had both a regular pressure-fueling hose and an over-the-wing fueling nozzle that was convenient for fueling support equipment with JP-5.

The trainee made sure everything was grounded and the aircraft ready for refueling. The fuel-truck operator started pumping JP-5 at 45 psi.

The PC's hand-held fueling nozzle bucked, and pressurized fuel shot against the strainer and back-splashed, soaking the PC and showering the rear of the NC-8. Fortunately, she had been wearing goggles.

She shouldn't have started filling the NC-8 at the same time the aircraft was being fueled. The pressure was too great for the gravity-fuel nozzle she was holding. Neither she nor the operator were paying attention to what was going on.

Our safety petty officer investigated and made these observations: Neither the Support Equipment Basic Handling and Safety Manual (NA 00-80T-96) nor the Aircraft Refueling for Shore Activities Manual (NA 06-5-502) mention this hazard. The NA 06-5-502 discusses grounding the aircraft and the fuel truck, but neither manual says anything about fueling support equipment.

Our pubs can't cover every conceivable hazard. That's why we must give each job our full attention and think things through when we create new shortcuts. ▼

Chief Thompson works in QA for the Medium Attack Weapons Det, NAF El Centro.

AEC(AW) E.S. Thompson

The mech (who was in the refueling incident) is shown refueling an NC-8 at NAF El Centro. The fuel-truck operator has just completed refueling the A-6E.

Naval Safety Center

CROSSFEED

Cdr. G.D. Walker
Head, Aviation Maintenance and Material Division

AZCS(AW) Dan Steber
Editorial Coordinator

HAZMAT

Flight of Fumes

by ADC(AW) Stan Smith

During a C-9 flight, attendants reported a strong odor, like cleaning fluid, near mid-cabin. A flight attendant (FA) found a one-pint container of lighter-fluid in an overhead storage compartment. A passenger had brought the container on board. The FA put it in the refrigerator for the remainder of the flight (it isn't an explosion-proof refrigerator, but the cold kept the vapors from expanding).

NAVSUP Publication 505 says, "Liquefied petroleum gases must not be transported with passengers aboard naval aircraft unless a deviation has been granted." No deviation had been granted in this instance.

Again, we escaped a tragedy. Know the rules and live by them.

ADC(AW) Smith is a power-plants analyst at the Naval Safety Center.

TECH LIBRARY

If the Pub's Wrong, Fix It!

by AT1(AW) James Chalmers

Who writes technical publications deficiency reports (TPDRs)? Anyone who uses tech pubs.

Publishers of the pubs get feedback from the fleet from TPDRs. Who could better uncover problems with pubs and get them fixed? We document problems in TPDRs to eliminate unsafe practices, correct inefficient maintenance programs and streamline our maintenance pubs.

Submit TPDRs anytime you find an error in a pub. You might notice a missing word, paragraph or page, which are reasons to send a report. Maybe you think a caution or a warning should be added to a manual. The important thing is to get the corrective process underway.

The TPDR takes five minutes to complete, time that might prevent aircraft damage or keep someone from getting hurt. The NAMP and the TPDR form give you step-by-step instructions on how to fill it out. If you still have questions or problems, go to QA for help.

AT1(AW) Chalmers was assigned to HSL-42, Det 5, when he wrote this article.

NAMP Goes High-Tech with CD-ROM

by AZCM Johny Wayne Abbott

The Naval Aviation Maintenance Office (NAMO) has converted OPNAVINST 4790.2E (NAMP) from a paper manual to an Interactive Electronic Technical Manual (IETM). A prototype (Vol II) CD-ROM is being used aboard USS *Carl Vinson*, USS *George Washington* and several commands on both coasts. The automated NAMP offers improved control of your data (no missing pages or changes), durability, easy operation and fast retrieval of information. Using the NAMP CD-ROM, you can quickly search for key words, references, notes, cautions, procedures, tables and figures. The system saves the Navy money.

The Naval Electronic System Engineering Activity (NESEA) is cooperating in the production of OPNAVINST 4790.2F IETM.

Commands will receive OPNAVINST 4790.2F CD-ROMs in June 1995, along with a reduced number of paper NAMPs. You can expect at least 50 percent fewer paper copies than you are accustomed to, and total elimination of paper copies within five years.

The recommended hardware and software for CD-ROM includes:

*386 IBM-compatible PC or better

*At least 4Mb of random access memory (full installation requires at least a 100Mb hard drive)

*Keyboard, VGA resolution monitor and mouse

*CD-ROM drive and controller card

*MS Windows version 3.1

You can load the NAMP CD-ROM into a local area network (LAN) server to permit access from any work station. You can also use it on your automated library technical manuals system (ALTMS) hardware. Contact your type commander rep concerning funding and procurement of the hardware and software.

Master Chief Abbott is NAMP change coordinator and the NAMP CD-ROM Project team leader at Naval Aviation Maintenance Office, Patuxent River, Md. For more information about the electronic NAMP project, call NAMO at DSN 326-7900 or (301) 826-7900, extension 216.

AEC Ahearn

Jack Jones holds a stack of discs that will replace the pallet of paper NAMP manuals.

MAINTENANCE MANAGEMENT

Class C Summary: A Million Dollars Worth of Shortcuts

by AZCS(AW) Dan Steber

There were 29 Class C mishaps from June to November 1994 at a cost of $1,492,106. Here are some examples:

❑ There were three falls from aircraft or workstands that produced two fractured wrists and an injured eye. PPE prevented more serious injury.

❑ A maintenance crew jettisoned a full 300-gallon drop tank from an F/A-18 during release and control checks. They did not follow the entire checklist nor remove the CADs from the mishap station.

❑ No.2 engine of an H-46 exceeded its T5 limit on start. The crew was responding to an immediate SAR launch and did not remove the covers. They assumed the covers had been removed.

❑ A PC crushed his thumb doing a turnaround inspection of an H-46 rotorhead. He was spinning the head and caught his thumb between the upper and lower swashplates.

❑ There were four mishaps during aircraft towing, including an F/A-18 that was hit by a fuel truck.

❑ An F-14 ingested a PC trainee when she tried to return an air hose to a Wells unit through the intake-hazard area of the starboard engine. The engine was idling, but the suction was strong enough to snatch the PC. She lost two fingers, got her head cut up, and fractured two ribs and a shoulder blade. The squadron's MI didn't specify the trainee's responsibilities for launch and recovery nor standardize the routing of the air hose aft of the mainmounts.

The average cost per shortcut was $51,451. We're lucky it wasn't worse. It would be nice if our shipmates could keep us from hurting ourselves (occasionally they do), but the most dependable person for keeping yourself out of trouble is you.

Senior Chief Steber is a maintenance analyst at the Naval Safety Center.

SUPERVISION

Wing-Folding Fiasco

by Capt. Kevin G. Emery, USMC, and Bud Baer

An AE in the cockpit of a Hornet pulled the switch to fold the wings. He expected the wings to move up but didn't watch them. He heard a crunching sound. The wings had moved all the way down to the concrete, damaging both leading- and trailing-edge flaps, the wing-fold U-joints, the substructure, and fairings in the wing-fold area. It took 200 days of depot-level repair to get the plane up.

It happened like this: AEs on a det to an MCAS exchanged two electrical-drive units (EDUs) with another F/A-18 to correct the second aircraft's wing-fold gripes for an upcoming CQ det. The first plane flew back to its NAS with the EDUs thought to be defective. Three days later, an AE tried to fold the wings.

This rare incident happened because AEs installed the EDUs improperly. They didn't check the direction of travel or maintain side-by-side integrity of the EDUs. They didn't check the fold operation after installation because they believed the EDUs from the other aircraft were bad.

Cdr. Bruce Crisler, squadron maintenance officer at the time of the incident, said it happened at the end of the day when the crew was hurrying to get the work done. "They didn't check out the EDUs and adjust them to drive the wings in the right direction," said Cdr. Crisler, now CNATRA deputy ACOS for aircraft maintenance and inventory management. "If they had only followed the steps in the manual, they would have done the job right."

Capt. Emery is head of the power-plants branch for maintenance analysis at the Naval Safety Center.

Bud Baer is an associate editor.

ORDNANCE

Things That Go Bang During Maintenance

by Ed Luther

Of the 46 accidental detonations reported by aviation commands in October, November and December 1994, 33 were CADs. Maintenance personnel fired 17, ordnancemen three. Eleven of the 33 were fire-extinguisher CADs. Two mishap narratives follow.

•An avionics technician troubleshooting the HEFS control box on a CH-46 activated the system. This expended the four MJ-91 and MJ-21 CADs and deployed the flotation gear. A maintenance instruction warns not to troubleshoot the HEFS system with CADs installed.

•The maintenance crew of an SH-60 discharged the port BRU-14/A M55 and Mk-17 ignition elements during a wiring check of the starboard BRU-14/A for a torpedo exercise. Investigation found that procedural errors led to the mishap.

Mr. Luther is a weapons-safety specialist at the Naval Safety Center.

October-December Conventional Ordnance Deficiencies

Type	Inadvertent Activation	Malfunction	Fail to Test	Observed Defect	Other	Total
Aviation	46	118	33	108	46	351
Shore	5	1	0	3	11	20
Submarine	0	1	0	1	1	3
Surface	6	27	5	15	16	69
Total	**57**	**147**	**38**	**127**	**74**	**443**

	Losses		Causal Factors			
Type	Deaths	Injuries	Personnel	Material	Design	Other
Aviation	0	1	66	220	2	63
Shore	0	1	10	5	0	5
Submarine	0	0	1	2	0	0
Surface	0	3	9	50	4	6
Total	**0**	**5**	**86**	**277**	**6**	**74**

LETTERS

Front Cover

Sep-Oct-Nov 1994 *Mech*

NAS Cecil Field, Fla. — After noting the eye-catching back cover with the degloved middle finger, I turned the magazine over to see which magazine I was looking at. I was startled to view three people using a TA-75 tow tractor as a workstand — a no-no.

This practive violates NA-00-80T-96 (page 220), which considers using tractors for anything but towing dangerous. I hope that others noticed this discrepancy. If the cover is used for training purposes, it should be considered as a what-not-to-do example.

AMH1(AW) Greg Wooten
VFA-86

We've received way-to-go comments on the degloved finger from far and wide. I think we hit a nerve on this one. Now about the front cover. Our hat's off to AMH1(AW) Wooten, the first to notice how not to use a TA-75 tractor. If we'd only realized this early on, we could have labeled it that way. — Ed.

Back Cover

Sept-Oct-Nov 1994 *Mech*

USS *Enterprise* (CVN 65) — The back cover is a real attention-getter. We are using it as a safety poster on our bulletin board outside the safety office. It shows what can happen doing maintenance while wearing rings, and in a most graphic manner.

Many Sailors have stopped and asked what happened. We would appreciate any further information about this unfortunate mishap.

Cdr. E. K. Thompson
Safety Officer

While wiping a helicopter on a British aircraft carrier in heavy seas, the maintainer was lifted by another and slipped, catching his finger on the radome platform bracket. — Lt. Barrie Hartley, RN, exchange officer, Naval Safety Center.

Norfolk, Va. — The photograph is disgusting and represents shock journalism at it's finest. It is in tremendously bad taste. Is this supposed to be informative?

Perhaps the Navy can look forward to color photos of dismembered heads and limbs from industrial accidents, or maybe something truly original like color photos of traffic-accident carnage.

Christopher D. Jones
Norfolk Industrial Hygiene Department
6500 Hampton Blvd.

The carnage of the past three years, depicted in the daily message traffic, prompted us to print the graphic photo you find so offensive. So far, it's gotten a lot of attention. — Ed.

Down with visors!

visors are for the birds

Contributed by LCdr. R.F. Edwards, ASO, VF-74

Robert Trotter